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ABSTRACT

This is the fourth volume of a series produced by the New York State Education Department. Originally developed by four local school districts, the mathematics objectives and sample items included were not intended to be official or comprehensive but rather to be used as an aid to teachers in constructing curricula and in making classroom goals clear and precise. The document presents a series of 300 examples, each of which states an objective and gives a sample item. The objectives are classified under one of 12 sections: sets; number, numeral, and numeration systems; whole numbers; fractions (positive rationals); decimals; integers; ratio, proportion, and percent; measurement; geometry; problem solving/word problems; algebra; and statistics and probability. For other volumes in this series, see ED 064 165, ED 064 166, ED 064 167, SE 014 469, and SE 014 548. (DT)

PROJECT SPPED

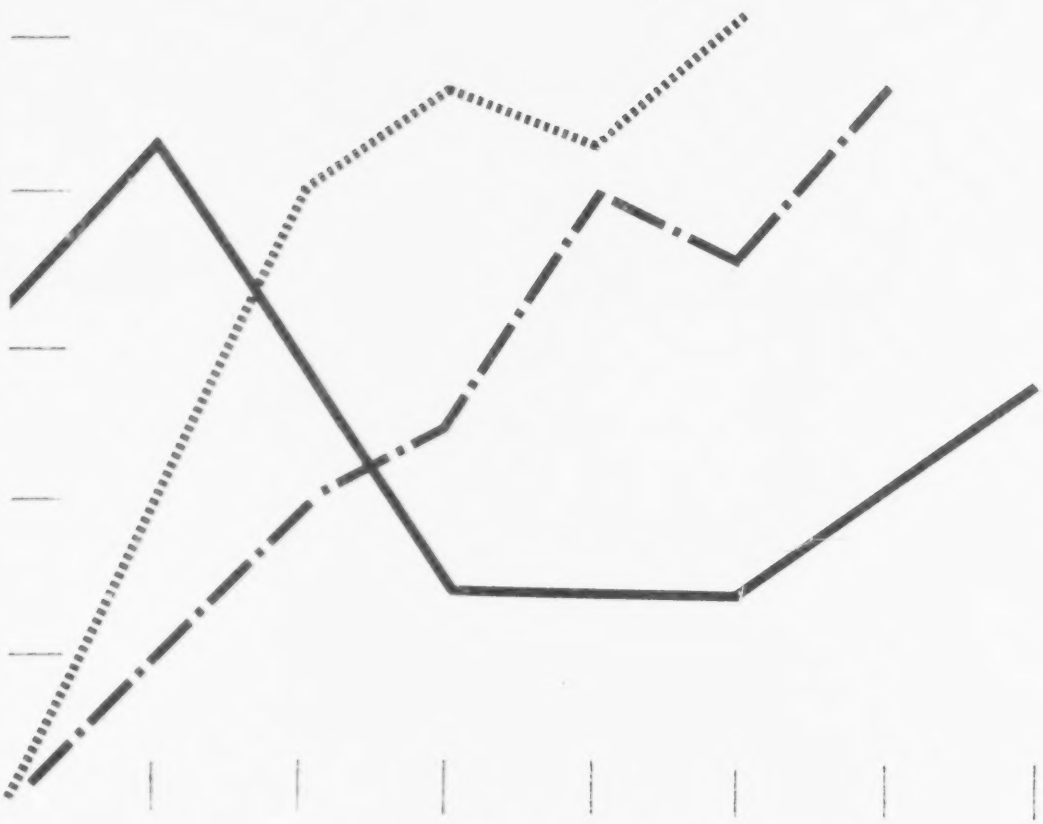
System for Program and Pupil Evaluation and Development

ED 069500

U.S. DEPARTMENT OF HEALTH
EDUCATION & WELFARE
OFFICE OF EDUCATION

MATHEMATICS OBJECTIVES

LEVEL 7



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The University of the State of New York
THE STATE EDUCATION DEPARTMENT
Bureau of School and Cultural Research
Albany, New York 12224
1972

ED 069500

MATHEMATICS OBJECTIVES FOR LEVEL 7

Project SPPED

System for Pupil and Program Evaluation and Development

Volume IV

The University of the State of New York
The State Education Department
Albany, New York 12224

FOREWORD

The mathematics objectives and items in this packet were originally developed by four local school districts who were participating in CAM projects sponsored by the New York State Education Department. They were refined, checked for quality, and organized by Gerlach van Gendt of the Bureau of School and Cultural Research with assistance from Lee Negus of the Bureau of Mathematics Education.

These objectives are not an official or endorsed set of Mathematics Objectives. Nor do they claim to be comprehensive (i.e., covering all material in the relevant grade levels).

Nonetheless, it is our hope that many teachers will find these objectives useful and helpful in constructing curricula for their classes. These objectives can help you, as a teacher, make vague classroom goals clear and precise. But, the responsibility for what is taught is still the teacher's.

Sets

		6 3 1 8 5	

OBJECTIVE: Given a verbal description of a set, the student will list the members of this set using set notation.

SAMPLE ITEM: Given the set of whole numbers between 3 and 7. List the elements in this set.

Answer: $\{4, 5, 6\}$

Level 7 Classification - Sets, Listing a Set/Set Notation/ Terminology/Finite-Infinite	41 Descriptor - Listing a Set Role, Student

		6 3 1 9 0	

OBJECTIVE: Given any number of sets, the student will list their intersection or union.

SAMPLE ITEM: Given: $A = \{1, 2, 3\}$ $B = \{1, 3, 5, 7\}$

Find $A \cap B$. Find $A \cup B$.

Answer: $\{1, 3\}$ Answer: $\{1, 2, 3, 5, 7\}$

Level 7 Classification - Sets, Union and Intersection/ Disjoint/Pictorial Representation	41 Descriptor - Intersection and Union of Sets Role, Student

		6 3 1 9 5	

OBJECTIVE: Given three sets, each with four elements or less, the student will list the elements in the union or intersection.

SAMPLE ITEM: Write the elements in the intersection of the following three sets:

{A, B, C, D}
{C, F, G, H}
{C, D, O, S}

Answer: {C}

Level 7 Classification - Sets, Union and Intersection/ Disjoint/Pictorial Representation	41 Descriptor - Intersection and Union of Sets Role, Student

		6 3 2 0 0	

OBJECTIVE: Given a list of sets, the student will select and write the pair of disjoint sets.

SAMPLE ITEM: From the following list, select the pair of disjoint sets.

Set A. {12, 14, 16, 18}
Set B. {11, 13, 15, 17}
Set C. {11, 12, 13, 14}
Set D. {14, 15, 16, 17}

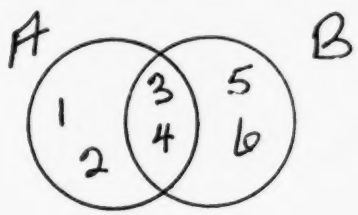
Answer: Set A and Set B

Level 7 Classification - Sets, Union and Intersection/ Disjoint/Pictorial Representation	41 Descriptor - Disjoint Sets Role, Student

		6 3 2 0 5	

OBJECTIVE: Given a Venn diagram with two sets and the element inside the diagram, the student will identify the elements in one of the sets.

SAMPLE ITEM: Given the Venn diagram below, list the elements in set A.



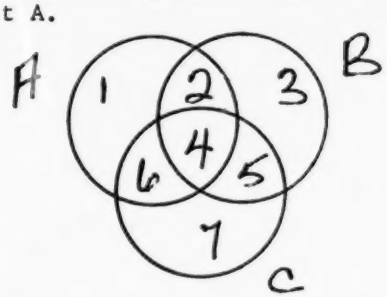
Answer: 1, 2, 3, 4

Level 7 Classification - Sets, Union and Intersection/ Disjoint/Pictorial Representation	41 Descriptor - Pictorial Representation of Sets Role, Student

		6 3 2 1 0	

OBJECTIVE: Given a Venn diagram containing three sets and the elements inside the diagram, the student will identify the elements in one of the sets.

SAMPLE ITEM: In the Venn diagram below, list the elements in set A.



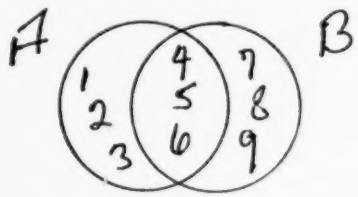
Answer: 1, 2, 4, 6

Level 7 Classification - Sets, Union and Intersection/ Disjoint/Pictorial Representation	41 Descriptor - Pictorial Representation of Sets Role, Student

		6 3 2 1 5		

OBJECTIVE: Given a Venn diagram, the student will identify the area which represents the intersection of two or more sets.

SAMPLE ITEM: List the elements in the intersection of sets A and B.



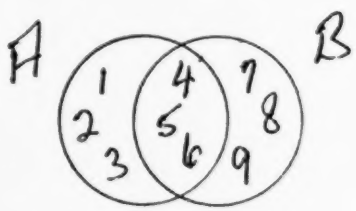
Answer: 4, 5, 6

Level 7 Classification - Sets, Union and Intersection/ Disjoint/Pictorial Representation	41 Descriptor - Pictorial Representation of Sets Role, Student

		6 3 2 2 0		

OBJECTIVE: Given a Venn diagram, the student will identify the union of the two sets.

SAMPLE ITEM: List the elements in the union of sets A and B.



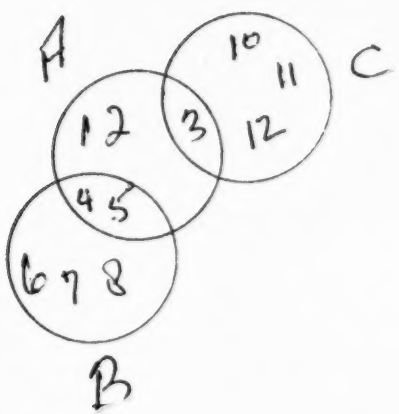
Answer: 1, 2, 3, 4, 5, 6, 7, 8, 9

Level 7 Classification - Sets, Union and Intersection/ Disjoint/Pictorial Representation	41 Descriptor - Pictorial Representation of Sets Role, Student

		6 3 2 2 5		

OBJECTIVE: Given a Venn diagram, the student will identify **two disjoint sets from the sets** pictured.

SAMPLE ITEM: Name the two disjoint sets from the sets below.



Answer: B and C

Level 7 Classification - Sets, Union and Intersection/ Disjoint/Pictorial Representation	41 Descriptor - Pictorial Representation of Sets Role, Student

		6 3 2 3 0	

OBJECTIVE: Given a problem involving sets of numbers, and a choice of Venn diagrams, the student will select the diagram which describes the solution to the problem.

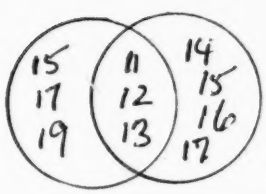
SAMPLE ITEM: Write the letter that labels the Venn diagram that shows the solution to the following problem:

Set A = The set of all odd counting numbers between 10 and 20.

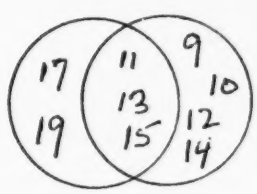
Set B = The set of all counting numbers between 8 and 16.

What is the intersection of the two sets?

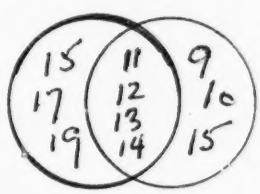
A



B



C



Answer: B

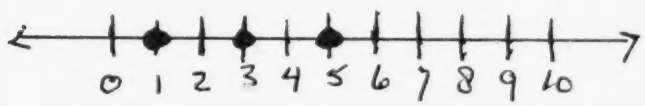
Level 7 Classification - Sets, Union and Intersection/ Disjoint/Pictorial Representation	41 Descriptor - Pictorial Representation of Sets Role, Student

		6 3 2 3 5		

OBJECTIVE: Given a set of numbers, the student will graph this set on a number line.

SAMPLE ITEM: Graph $\{1, 3, 5\}$ on the number line.

Answer:



Level 7 Classification - Sets, Sets on the Number Line/Cardinal Numbers/One-to-One Correspondence	41 Descriptor - Sets on the No. Line Role, Student

		6 3 2 4 0		

OBJECTIVE: Given a set, the student will name a set which is equal to the given set, or a set which is equivalent but not equal to the given set.

SAMPLE ITEM: Write a set equal to $\{1, 2, 3\}$

Answer: $\{1, 2, 3\}$ or $\{2, 1, 3\}$ or $\{3, 1, 2\}$
$\{2, 3, 1\}$ or $\{1, 3, 2\}$ or $\{3, 2, 1\}$

Write a set equivalent, but not equal to $\{1, 2, 3\}$.

Answer: $\{a, b, c,\}$ or any set with 3 elements.

Level 7 Classification - Sets, Equal/Equivalent	41 Descriptor - Equal and Equivalent Sets Role, Student

		6 3 2 4 5	

OBJECTIVE: Given a set containing two or three members, the student will list all proper subsets and improper subsets.

SAMPLE ITEM: Given $\{1, 2, 3\}$. List all proper subsets and improper subsets.

Answer: Proper subsets: $\{1\}$, $\{2\}$, $\{3\}$, $\{1,2\}$, $\{1,3\}$ $\{2,3\}$, or $\emptyset$

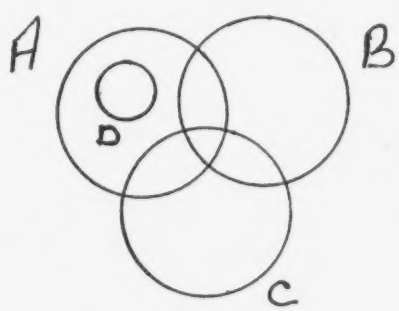
Improper subsets: $\{1, 2, 3\}$

Level 7 Classification - Sets, Subsets - Empty Sets	41 Descriptor - Determining Subsets Role, Student

		6 3 2 5 0	

OBJECTIVE: Given a Venn diagram, the student will identify the area which signifies a subset.

SAMPLE ITEM: Name the set which signifies a proper subset in the diagram below.



Answer: D

Level 7 Classification - Sets, Subsets - Empty Sets	41 Descriptor - Determining Subsets Role, Student

		6 3 2 5 5	

OBJECTIVE: Given pairs of sets, the student will select those sets which are equal or those which are equivalent.

SAMPLE ITEM: Write the letter that labels a pair of sets that are equivalent:

A. $\{1, 2, 3\}$ $\{A, B, C, D\}$

B. $\{8\}$ $\{M, N\}$

C. $\{1, 2, 3, 4\}$ $\{H, J, S\}$

D. $\{1, 2, 3\}$ $\{E, F, G\}$

Answer: D

Level 7 Classification - Sets, Equal/Equivalent	41 Descriptor - Equal and Equivalent Sets Role, Student

Number, Numeral, and Numeration Systems

		6 3 2 6 0		

OBJECTIVE: Given a list of sets, the student will select the set of the counting numbers (natural numbers).

SAMPLE ITEM: Which of the following sets contains all of the counting or natural numbers?

A. {1, 3, 5, 7, 11 ...}

B. {2, 3, 5, 7, 11 ...}

C. {16, 18, 20, 24 ...}

D. {1, 2, 3, 4 ...}

Answer: D

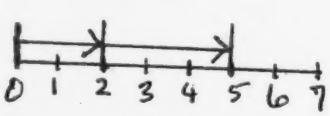
Level 7 Classification - Number, Numeral, and Numeration Systems, Numbers/Counting Identifying Numerals	41 Descriptor - Identifying Whole Numbers Role, Student

		6 3 2 6 5		

OBJECTIVE: Given an addition problem involving whole numbers, the student will show the sum of the numbers by use of arrows on the number line.

SAMPLE ITEM: Graph 2 + 3 using arrows on the number line.

Answer:



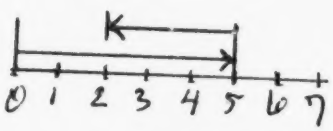
Level 7 Classification - Number, Numeral, and Numeration Systems, Number Line/Inequalities	41 Descriptor - Addition on Number Line Role, Student

		6 3 2 7 0		

OBJECTIVE: Given a subtraction problem involving two whole numbers, the student will show their difference using arrows on the number line.

SAMPLE ITEM: Graph 5 - 3 using arrows on the number line.

Answer:



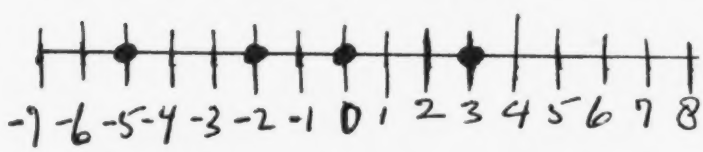
Level 7 Classification - Number, Numeral, and Numeration Systems, Number Line/Inequalities	41 Descriptor - Subtraction on Number Line Role, Student

		6 3 2 7 5		

OBJECTIVE: Given a set of integers, graphed on the number line, the student will list these integers in order of decreasing value.

SAMPLE ITEM: Given:

List the set of graphed integers in descending order.



Answer: $\{3, 0, -2, -5\}$

Level 7 Classification - Number, Numeral, and Numeration Systems, Number Line/Inequalities	41 Descriptor - Number Line Labeling Role, Student

		6 3 2 8 0	

OBJECTIVE: Given a set of integers, the student will arrange them in ascending or descending order, using either the greater than ($>$) or less than ($<$) symbol.

SAMPLE ITEM: Arrange -7, 4, 0, -2, 3 in ascending order using the "less than" symbol.

Answer: $-7 < -2 < 0 < 3 < 4$

Level 7 Classification - Number, Numeral, and Numeration Systems, Number Line/Indequalities	41 Descriptor - Inequalities on Whole Numbers Role, Student

		6 3 2 8 5	

OBJECTIVE: Given **two number phrases, the student will** write the proper symbol for "greater than," "less than," or "equal to" as determined by the relationship between the phrases.

SAMPLE ITEM: Replace $\square$ with the proper symbol for "greater then," "less than," or equal to."

$12 \times 9 \square 8 \times 14$

Answer: $<$

Level 7 Classification - Number, Numeral, and Numeration Systems, Number Line/Inequalities	41 Descriptor - Inequalities on Whole Numbers Role, Student

		6 3 2 9 0		

OBJECTIVE: Given a decimal numeral, the student will name the place value for an indicated digit.

SAMPLE ITEM: Given the number 74623. Name the digit in the hundreds place.

Answer: 6

Level 7 Classification - Number, Numeral, and Numeration Systems, Place Value	41 Descriptor - Place Value Role, Student

		6 3 2 9 3		

OBJECTIVE: Given a number, **seven digits or less, the** student will select and write the place value of any digit.

SAMPLE ITEM: Write the place value of the underlined digit:

9,863,475

Answer: Ten thousands

Level 7 Classification - Number, Numeral, and Numeration Systems, Place Value	41 Descriptor - Place Value Role, Student

		6 3 3 0 0	

OBJECTIVE: Given a Hindu-Arabic numeral, the student will write the equivalent Roman numeral.

SAMPLE ITEM: Write the Roman numeral for the following Hindu-Arabic numeral:

1970

Answer: MCMLXX

Level 7 Classification - Number, Numeral, and Numeration Systems, Roman Numerals	41 Descriptor - Roman Numerals Role, Student

		6 3 3 0 5	

OBJECTIVE: Given a whole number of no more than 10 digits, the student will round it to the indicated place value.

SAMPLE ITEM: Round the numeral 6,785,449 to the nearest 100.

Answer: 6,785,400

Level 7 Classification - Number, Numeral, and Numeration Systems, Rounding	41 Descriptor - Rounding Off Role, Student

		6 3 3 1 0	

OBJECTIVE: Given a set of numbers, the student will list the subset of even or odd numbers.

SAMPLE ITEM: Given: $\{3, 4, 5, 6, 7\}$. List the subset of even numbers.

Answer: $\{4, 6\}$

Level 7 Classification - Number, Numeral, and Numeration Systems, Odd and Even	**41 Descriptor - Identifying Odd and Even Numbers** Role, Student

		6 3 3 1 5	

OBJECTIVE: Given a 3-digit number, the student will write the number in expanded form using exponential notation.

SAMPLE ITEM: Write the following number in expanded form using exponential notation: 483.

Answer: $(4 \times 10^2) + (8 \times 10^1) + (3 \times 1)$

Level 7 Classification - Number, Numeral, and Numeration Systems, Expanded Notation	41 Descriptor - Expanded Notation Role, Student

		6 3 3 2 0		

OBJECTIVE: Given a number, four digits or less, the student will rewrite the number using scientific notation.

SAMPLE ITEM: Rewrite the following number using scientific notation:

4000

Answer: 4×10^3

Level 7 Classification - Number, Numeral, and Numeration Systems, Scientific Notation	41 Descriptor - Scientific Notation Role, Student

		6 3 3 2 5		

OBJECTIVE: Given a whole number of no more than 10 digits the student will round it to the highest place value possible and write the number in exponential notation using powers of 10.

SAMPLE ITEM: Round off 147,000 to the highest place value and then write in exponential notation using powers of 10.

Answer: 1×10^5

Level 7 Classification - Number, Numeral, and Numeration Systems, Scientific Notation	41 Descriptor - Scientific Notation Role, Student

		6 3 3 3 0	

OBJECTIVE: Given a number written in base 2 or base 5, the student will name its equivalent in base 10.

SAMPLE ITEM: Change 101 to an equivalent number in base 10.
two

Answer: 5

Level 7 Classification - Number, Numeral, and Numeration Systems, Bases other than 10	41 Descriptor - Mixed bases Role, Student

		6 3 3 3 5	

OBJECTIVE: Given a number in any base less than 10, the student will rename the number in another base.

SAMPLE ITEM: Change 47 to base 4.
nine

Answer: 223

Level 7 Classification - Number, Numeral, and Numeration Systems, Bases other than 10	41 Descriptor - Mixed bases Role, Student

		6 3 3 4 0	

OBJECTIVE: Given two numbers in base 2 or base 5, the student will find either the product or the sum as indicated.

SAMPLE ITEM: Find the product of 132 x 24
five five

Answer: 4323
five

Level 7 Classification - Number, Numeral, and Numeration Systems, Bases other than 10	41 Descriptor - Mixed bases Role, Student

Whole Numbers

		6 3 3 4 5	

OBJECTIVE: Given a problem involving addition of whole numbers, the student will perform the indicated operation.

SAMPLE ITEM: Add: 93 + 79 + 205

Answer: 377

Level 7 Classification - Whole Numbers, Addition	41 Descriptor - Adding Whole Numbers Role, Student

		6 3 3 5 0	

OBJECTIVE: Given six numbers, six digits or less, the student will compute and write the sum.

SAMPLE ITEM: Compute the sum:

433,125
76,387
514,134
3,865
36,112
+ 464,302

Answer: 1,527,925

Level 7 Classification - Whole Numbers, Addition	41 Descriptor - Adding Whole Numbers Role, Student

		6 3 3 5 5		

OBJECTIVE: Given a sum which is seven digits or less, and one addend, the student will compute and write the missing addend.

SAMPLE ITEM: Write the missing addend.

_____ + 12,352 = 26,756

Answer: 14,404

Level 7 Classification - Whole Numbers, Addition	41 Descriptor - Find Missing Addend Role, Student

		6 3 3 6 0		

OBJECTIVE: Given a problem involving the subtraction of whole numbers, the student will perform the indicated operation.

SAMPLE ITEM: Subtract 1632 from 3604.

Answer: 1972

Level 7 Classification - Whole Numbers, Subtraction	41 Descriptor - Addition and Subtraction Whole Numbers Role, Student

		6 3 3 6 5	

OBJECTIVE: Given a whole number and a power of 10, the student will find the product.

SAMPLE ITEM: Multiply: 24 x 10 =

Answer: 240

Level 7 Classification - Whole Numbers, Multiplication	41 Descriptor - Multiplication of Whole Numbers Role, Student

		6 3 3 7 0	

OBJECTIVE: Given a problem involving the multiplication of whole numbers, the student will find the product of the numbers.

SAMPLE ITEM: Find the product:

39 x 257

Answer: 10,023

Level 7 Classification - Whole Numbers, Multiplication	41 Descriptor - Multiplication of Whole Numbers Role, Student

		6 3 3 7 5	

OBJECTIVE: Given a multiplication example, with factors of three or four digits, the student will compute and write the product.

SAMPLE ITEM: Compute and write the product.

$$\begin{array}{r} 356 \\ \times\ 87 \\ \hline \end{array}$$

Answer: 30,972

Level 7 Classification - Whole Numbers, Multiplication	41 Descriptor - Multiplication of Whole Numbers Role, Student

		6 3 3 8 0	

OBJECTIVE: Given a problem involving the division of whole numbers, the student will find the quotient of the numbers.

SAMPLE ITEM: Find the quotient:

$$18144 \div 36$$

Answer: 504

Level 7 Classification - Whole Numbers, Division	41 Descriptor - Division Without Remainder Role, Student

		6 3 3 8 5	

OBJECTIVE: Given a dividend, **six digits or less, and a** divisor, **three digits or less, the student will** compute and write the quotient, expressing the remainder in terms of "R."

SAMPLE ITEM: Compute the quotient. Express the remainder with R.

$322\overline{)123969}$

Answer: 384 R 321

Level 7 Classification - Whole Numbers, Division	41 Descriptor - Division with Remainder Role, Student

		6 3 3 9 0	

OBJECTIVE: Given an addition or multiplication example, with **two addends or two factors, the student will** rewrite the problem using the **commutative property.**

SAMPLE ITEM: Rewrite the following problem using the commutative property of multiplication:

43 x 607

Answer: 607 x 43

Level 7 Classification - Whole Numbers, Properties/Inverse Operations	41 Descriptor - Commutative - Whole Numbers Role, Student

		6 3 3 9 5		

OBJECTIVE: Given the indicated sum of any two whole numbers, the student will use the commutative property to arrange the numbers in another way.

SAMPLE ITEM: Given 16 + 19. Rewrite the expression using the commutative property.

Answer: 19 + 16

Level 7 Classification - Whole Numbers, Properties/Inverse Operations	41 Descriptor - Commutative - Whole Numbers Role, Student

		6 3 4 0 0		

OBJECTIVE: Given the indicated product of any two numbers, the student will use the commutative property to arrange the numbers another way to perform the multiplication.

SAMPLE ITEM: Given 7 x 13. Rewrite the expression using the commutative property.

Answer: 13 x 7

Level 7 Classification - Whole Numbers, Properties/Inverse Operations	41 Descriptor - Commutative and Associative - Whole Nos. Role, Student

		6 3 4 0 5	

OBJECTIVE: Given the indicated sum of any three whole numbers, the student will use the associative property to arrange them in two ways to add the three numbers.

SAMPLE ITEM: Given 2 + 3 + 7. Rewrite in two ways using the associative property.

Answer: (1) (2 + 3) + 7

(2) 2 + (3 + 7)

Level 7 Classification - Whole Numbers, Properties/Inverse Operations	41 Descriptor - Associative - Whole Nos. Role, Student

		6 3 4 1 0	

OBJECTIVE: **Given an addition or multiplication problem, with three addends or three factors, the student will rewrite the problem using the associative property.**

SAMPLE ITEM: Rewrite the following problem using the associative property:

16 x (18 x 20) =

Answer: (16 x 18) x 20

Level 7 Classification - Whole Numbers, Properties/Inverse Operations	41 Descriptor - Associative - Whole Nos. Role, Student

		6 4 1 5	

OBJECTIVE: Given a number example, the student will rewrite the example using the **distributive property.**

SAMPLE ITEM: Rewrite the following example using the **distributive property.**

$$(12 \times 17) + (12 \times 19)$$

Answer: $12 \times (17 + 19)$

Level 7 Classification - Whole Numbers, Properties/Inverse Operations	41 Descriptor - Distributive - Whole Nos. Role, Student
6 3 4 2 0	

OBJECTIVE: Given an expression involving whole numbers, the student will rewrite the expression as an equivalent expression using the distributive property.

SAMPLE ITEM: Rewrite 3 (2 + 4) using the distributive property.

Answer: $(3 \times 2) + (3 \times 4)$ or $6 + 12$

Level 7 Classification - Whole Numbers, Properties/Inverse Operations	41 Descriptor - Distributive - Whole Nos. Role, Student

		6 3 4 2 5		

OBJECTIVE: Given an open sentence expressed in whole numbers, the student will use the identity element, one, with the operations of multiplication and division.

SAMPLE ITEM: Given 2 x ☐ = 2. Find the value of the placeholder.

Answer: 1

Given 2 x 1 = ☐ . Find the value of the placeholder.

Answer: 2

Level 7 Classification - Whole Numbers, Properties/Inverse Operations	41 Descriptor - Identity Element - Whole Numbers Role, Student

		6 3 4 3 0		

OBJECTIVE: Given an example involving whole numbers, the student will use the identity element, zero, (0), with the operations of addition and subtraction.

SAMPLE ITEM: Given 2 + ☐ = 2. Find the value of the placeholder.

Answer: 0

Given 2 - 0 = ☐ . Find the value of the placeholder.

Answer: 2

Level 7 Classification - Whole Numbers, Properties/Inverse Operations	41 Descriptor - Identity Element - Whole Numbers Role, Student

		6 3 4 3 5	

OBJECTIVE: Given a list of four true number sentences, the student will select and write the one sentence which uses the multiplicative or additive identity.

SAMPLE ITEM: Which of the following number sentences uses the multiplicative identity?

$15 + 0 = 15$

$15 \times 1 = 15$

$0 + 15 = 0$

$3 \times 5 = 15$

Answer: $15 \times 1 = 15$

Level 7 Classification - Whole Numbers, Properties/Inverse Operations	41 Descriptor - Identity Element - Whole Numbers Role, Student

		6 3 4 4 0	

OBJECTIVE: Given sets of numerals, the student will select those which are closed for addition or those which are closed for multiplication.

SAMPLE ITEM: Write the letter of the set listed below that is closed under the operation of addition.

A. $\{0, 2, 4, 6, 8, 10\}$

B. $\{0, 1, 2, 3, 4, 5\}$

C. $\{0, 4, 6, 8, 12\}$

D. $\{0, 4, 8, 12, 16, 20, \ldots\}$

Answer: D

Level 7 Classification - Whole Numbers, Properties/Inverse Operations	41 Descriptor - Closure - Whole Numbers Role, Student

		6 3 4 4 5		

OBJECTIVE: Given a 2-digit number, the student will identify the whole number factors of that number.

SAMPLE ITEM: List the three pairs of factors of 20.

Answer: 1, 20
2, 10
4, 5

Level 7 Classification - Whole Numbers, Factors/Common Factors/G.C.F./ Divisibility Rules	41 Descriptor - Factors Role, Student

		6 3 4 5 0		

OBJECTIVE: Given a pair of numbers, each three digits or less, the student will compute and write the greatest common factor (G.C.F.).

SAMPLE ITEM: Write the greatest common factor for the following pair of numbers:

16
24

Answer: 8

Level 7 Classification - Whole Numbers, Factors/ Common Factors/G.C.F./Divisibility Rules	41 Descriptor - Greatest Common Factors Role, Student

		6 3 4 6 0		

OBJECTIVE: Given **two whole numbers, one with one digit** and one with **two digits, the student will** write the greatest common factor.

SAMPLE ITEM: Write the greatest common factor of 20 and 8.

Answer: 4

Level 7 Classification - Whole Numbers, Factors/Common Factors/G.C.F./ Divisibility Rules	41 Descriptor - Greatest Common Factors Role, Student

		6 3 4 6 5		

OBJECTIVE: Given two or more numbers, the student will name their greatest common factor.

SAMPLE ITEM: Given 24 and 30. Find their greatest common factor.

Answer: 6

Level 7 Classification - Whole Numbers, Factors/Common Factors/G.C.F./ Divisibility Rules	41 Descriptor - Greatest Common Factors Role, Student

		6 3 4 7 0	

OBJECTIVE: Given a number, the student will test the divisibility of the number by any of the following: 2, 3, 4, 5, 6, 8, 9, 10.

SAMPLE ITEM: Given the number 234?. What digit must replace the question mark to insure that this number is divisible by nine?

Answer: 9 or 0

Level 7 Classification - Whole Numbers, Factors/Common Factors/G.C.F./ Divisibility Rules	41 Descriptor - Divisibility by 2, 3, 4, ...12 Role, Student

		6 3 4 7 5	

OBJECTIVE: Given **two or more numbers, the student will** name their least common multiple.

SAMPLE ITEM: Find the least common multiple of 8, 12 and 15.

Answer: 120

Level 7 Classification - Whole Numbers, Multiples/Common Multiples/L.C.M.	41 Descriptor - Lowest Common Multiple Role, Student

		6 3 4 8 0		

OBJECTIVE: Given three numbers, each three digits or less, the student will compute and write the least common multiple (L.C.M.).

SAMPLE ITEM: Indicate by writing the least common multiple (LCM) of the following set of numbers: 2, 3, 7.

Answer: 42

Level 7 Classification - Whole Numbers, Multiples/Common Multiples/L.C.M.	41 Descriptor - Lowest Common Multiple Role, Student

		6 3 4 8 5		

OBJECTIVE: Given a product where one factor is a power of 10, the student will write the product with the appropriate number of zeros without calculation.

SAMPLE ITEM: Multipy 13×10^4.

Answer: 130,000

Level 7 Classification - Whole Numbers, Exponents and Powers	41 Descriptor - Multiplication of Whole Numbers Role, Student

		6 3 4 9 0	

OBJECTIVE: Given a number written in exponential form, the student will find the value.

SAMPLE ITEM: Given 2^3. Find the value.

Answer: 8

Level 7 Classification - Whole Numbers, Exponents and Powers	41 Descriptor - Exponents (Evaluating) Role, Student

		6 3 4 9 5	

OBJECTIVE: Given expressions involving exponents, the student will simplify these expressions.

SAMPLE ITEM: Simplify: $\frac{2^3 \cdot 10^2 \cdot 5^2}{4 \cdot 10^4}$

Answer: $\frac{1}{2}$ or .5

Level 7 Classification - Whole Numbers, Exponents and Powers	41 Descriptor - Exponents (Evaluating) Role, Student

		6 3 5 0 0	

OBJECTIVE: Given a number, the student will express the number in prime factored form.

SAMPLE ITEM: Completely factor 360.

Answer: $2^3 \cdot 3^2 \cdot 5^1$

Level 7 Classification - Whole Numbers, Prime/Composite	41 Descriptor - Prime Factorization Role, Student

		6 3 5 0 5	

OBJECTIVE: Given a composite number, **four digits or less**, the student will write the complete prime factorization of the number.

SAMPLE ITEM: Write the following composite number in prime factored form:

66

Answer: 2 x 3 x 11

Level 7 Classification - Whole Numbers, Prime Composite	41 Descriptor - Prime Factorization Role, Student

		6 3 5 0 5	0 0 0 0 5

OBJECTIVE: The student will identify a prime number.

SAMPLE ITEM: Which of the following is a prime number?

a) 7 b) 10 c) 24 d) 27

Answer: a

Level 7 Classification - Whole Numbers, Prime/ Composite	41 Descriptor - Identifying Numbers as Prime or Composite Role, Student

		6 3 5 1 0	

OBJECTIVE: Given a 2-digit number, the student will identify the prime factorization of that number.

SAMPLE ITEM: What is the prime factorization of 24?

Answer: 2 x 2 x 2 x 3

Level 7 Classification - Whole Numbers, Prime Composite	41 Descriptor - Identifying Numbers as Prime or Composite Role, Student

		6 3 5 1 0	0 0 0 0 5

OBJECTIVE: Given a list of sets, the student will select and write the set containing prime numbers or the set containing composite numbers.

SAMPLE ITEM: Write the letter of the set that is made up entirely of prime numbers:

A. {11, 14, 19, 21, 25, 30}

B. {11, 13, 17, 23, 29}

C. {11, 16, 19, 26, 31}

D. {11, 13, 18, 22, 28}

Answer: B

Level 7 Classification - Whole Numbers, Prime/Composite	41 Descriptor - Identifying Numbers as Prime or Composite Role, Student

		6 3 5 1 5	

OBJECTIVE: The student will identify the set of prime numbers from a list of sets of numbers.

SAMPLE ITEM: The set of prime numbers is:

a) $\{0, 1, 2, 3 \ldots\}$ b) $\{1, 2, 3 \ldots\}$

c) $\{3, 5, 7, 9 \ldots\}$ d) $\{2, 3, 5, 7, 11 \ldots\}$

Answer: d

Level 7 Classification - Whole Numbers, Prime/Composite	41 Descriptor - Identifying Numbers as Prime or Composite Role, Student

		6 3 5 2 0	

OBJECTIVE: Given a set of whole numbers, the student will list the subset of either the prime or composite numbers.

SAMPLE ITEM: Given: $\{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$

(a) From this set, list the prime numbers.
(b) From this set, list the composite numbers.

Answer: (a) $\{2, 3, 5, 7\}$

(b) $\{4, 6, 8, 9, 10\}$

Level 7 Classification - Whole Numbers, Prime Composite	41 Descriptor - Identifying Numbers as Prime or Composite Role, Student

		6 3 5 2 5	

OBJECTIVE: Given a list of numbers, the student will identify the composite numbers.

SAMPLE ITEM: Name all the composite numbers from the following list of numbers:

4, 5, 6, 7, 8

Answer: 4, 6, and 8

Level 7 Classification - Whole Numbers, Prime Composite	41 Descriptor - Identifying Numbers as Prime or Composite Role, Student

Fractions (Positive Rationals)

		6 3 5 3 0	

OBJECTIVE: Given a complex fraction, the student will simplify it.

SAMPLE ITEM: Simplify: $\dfrac{\frac{2}{3}}{\frac{3}{4}}$

Answer: $\frac{8}{9}$

Level 7 Classification - Fractions (Positive Rationals), Simplifying/Reducing Fractions	41 Descriptor - Reducing Fractions Role, Student

		6 3 5 3 5	

OBJECTIVE: Given any fraction, the student will reduce it to lowest terms.

SAMPLE ITEM: Reduce $\frac{35}{21}$ to lowest terms.

Answer: $\frac{5}{3}$ or $1\frac{2}{3}$

Level 7 Classification - Fractions (Positive Rationals), Simplifying/Reducing Fractions	41 Descriptor - Reducing Fractions Role, Student

		6 3 5 4 0		

OBJECTIVE: Given a set of positive rational numbers, the student will select and write the complex fraction.

SAMPLE ITEM: From the following set, select and write the complex fraction.

$$\left\{ \frac{3}{7}, \quad \frac{\frac{2}{3}}{\frac{8}{9}}, \quad \frac{9}{2}, \quad 1\frac{2}{8} \right\}$$

Answer: $\frac{\frac{2}{3}}{\frac{8}{9}}$

Level 7 Classification - Fractions (Positive Rationals), Proper/Improper/Mixed Fractions/ Complex	41 Descriptor - Identifying Complex Fractions Role, Student

		6 3 5 4 5		

OBJECTIVE: Given a set of positive rational numbers, the student will select and write the proper, improper, mixed or decimal fraction.

SAMPLE ITEM: Indicate by writing the proper fraction in the following set:

$$\left\{ \frac{3}{8}, \quad 1\frac{2}{5}, \quad \frac{7}{2}, \quad 8.31 \right\}$$

Answer: $\frac{3}{8}$

Level 7 Classification - Fractions (Positive Rationals), Proper/Improper/Mixed Fractions/ Complex	41 Descriptor - Identifying Proper/Improper Fractions Role, Student

		6 3 5 5 0		

OBJECTIVE: Given a fraction and a mixed number, the student will regroup the mixed number and find the product in lowest terms.

SAMPLE ITEM: Regrouping the mixed number, find the product in lowest terms:

$$\frac{2}{9} \times 1\frac{1}{4} =$$

Answer: $\frac{5}{18}$

Level 7 Classification - Fractions (Positive Rationals), Proper/Improper/Mixed Fractions/ **Complex**	41 Descriptor - Multiplying Mixed Numbers and Fractions Role, Student

		6 3 5 5 5		

OBJECTIVE: **Given two mixed numbers with unlike denominators, the student will compute the product in lowest terms.**

SAMPLE ITEM: In lowest terms, find the product:

$$1\frac{1}{2} \times 2\frac{2}{7} =$$

Answer: $3\frac{3}{7}$ or $\frac{24}{7}$.

Level 7 Classification - Fractions (Positive Rationals), Proper/Improper/Mixed Fractions/ **Complex**	41 Descriptor - Multiplying Mixed Numbers Role, Student

		6 3 5 6 0	

OBJECTIVE: **Given two mixed numbers with like fractional parts, the student will compute the quotient in lowest terms.**

SAMPLE ITEM: Divide and simplify:

$$1\frac{1}{2} \div 4\frac{1}{2} =$$

Answer: $\frac{1}{3}$

Level 7 Classification - Fractions (Positive Rationals), Proper/Improper/Mixed Fractions/ **Complex**	41 Descriptor - Dividing Mixed Numbers Role, Student

		6 3 5 6 5	

OBJECTIVE: **Given two mixed numbers with unlike denominators, the student will compute the quotient in lowest terms.**

SAMPLE ITEM In lowest terms, find the quotient:

$$2\frac{3}{4} - 5\frac{1}{2} =$$

Answer: $\frac{1}{2}$

Level 7 Classification - Fractions (Positive Rationals), Proper/Improper/Mixed Fractions/ **Complex**	41 Descriptor - Dividing Mixed Numbers Role, Student

		6 3 5 7 0		

OBJECTIVE: Given a fraction, the student will rename it as an equivalent fraction, with a specified denominator.

SAMPLE ITEM: Write $\frac{5}{7}$ as an equivalent fraction whose denominator is 28.

Answer: $\frac{20}{28}$

Level 7 Classification - Fractions (Positive Rationals), Equivalent Fractions	41 Descriptor - Writing Equivalent Fractions Role, Student

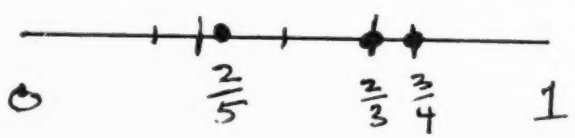
		6 3 5 7 5		

OBJECTIVE: Given a set of fractions, the student will graph their position on a number line.

SAMPLE ITEM: Graph the following set of fractions on a number line:

$$\left\{\frac{2}{3}, \frac{3}{4}, \frac{2}{5}\right\}$$

Answer:



Level 7 Classification - Fractions (Positive Rationals), Representing Fractions on Number Line (Ordering Fractions)	41 Descriptor - Identifying Fractions on Number Line Role, Student

		6 3 5 8 0	

OBJECTIVE: Given a set of fractions, the student will arrange them in either ascending or descending order using either the greater than ($>$) symbol or the less than ($<$) symbol.

SAMPLE ITEM: Arrange $\left\{\frac{1}{4}, \frac{3}{8}, \frac{5}{6}, \frac{1}{2}\right\}$ in descending order, using the greater than symbol.

Answer: $\frac{5}{6} > \frac{1}{2} > \frac{3}{8} > \frac{1}{4}$

Level 7 Classification - Fractions (Positive Rationals), Representing Fractions on Number Line (Ordering Fractions)	41 Descriptor - Ordering of Fractions Role, Student

		6 3 5 8 5	

OBJECTIVE: Given two or more fractions, the student will find the sum in lowest terms.

SAMPLE ITEM: Add: $\frac{3}{4} + \frac{2}{3}$

Answer: $\frac{17}{12}$ or $1\frac{5}{12}$

Level 7 Classification - Fractions (Positive Rationals), Addition	41 Descriptor - Adding Unlike Fractions Role, Student

		6 3 5 9 0	

OBJECTIVE: Given three common fractions, the student will compute and write the sum in lowest terms.

SAMPLE ITEM: Compute the following sum. Write the answer in lowest terms.

$$\frac{4}{7} + \frac{1}{2} + \frac{5}{14}$$

Answer: $1\frac{3}{7}$ or $\frac{10}{7}$

Level 7 Classification - Fractions (Positive Rationals), Addition	41 Descriptor - Adding Unlike Fractions Role, Student

		6 3 5 9 5	

OBJECTIVE: Given two fractions, the student will find their difference in lowest terms.

SAMPLE ITEM: Subtract: $\frac{3}{4} - \frac{2}{3}$

Answer: $\frac{1}{12}$

Level 7 Classification - Fractions (Positive Rationals), Subtraction	41 Descriptor - Subtracting Unlike Fractions Role, Student

		6 3 6 0 0	

OBJECTIVE: Given expressions involving addition and subtraction of fractions, the student will simplify these expressions and reduce them to lowest terms.

SAMPLE ITEM: Simplify: $\frac{1}{2} + \frac{3}{5} - \frac{3}{10}$

Answer: $\frac{4}{5}$

Level 7 Classification - Fractions (Positive Rationals), Subtraction	41 Descriptor - Addition and Subtraction of Fractions Role , Student

		6 3 6 0 5	

OBJECTIVE: Given a fraction and a whole number, the student will compute the product.

SAMPLE ITEM: Multiply: $\frac{2}{9} \times 2 =$

Answer: $\frac{4}{9}$

Level 7 Classification - Fractions (Positive Rationals), Multiplication	41 Descriptor - Multiplying Fractions Role, Student

		6 3 6 1 0	

OBJECTIVE: **Given two unlike fractions, the student will compute the product in lowest terms.**

SAMPLE ITEM: Find the product in lowest terms:

$$\frac{2}{7} \times \frac{1}{2} =$$

Answer: $\frac{1}{7}$

Level 7 Classification - Fractions (Positive Rationals), Multiplication	41 Descriptor - Multiplying Fractions Role, Student

		6 3 6 1 5	

OBJECTIVE: Given two or more fractions, the student will find their product in lowest terms.

SAMPLE ITEM: Multiply: $\frac{3}{4} \times \frac{2}{3} \times \frac{1}{5}$

Answer: $\frac{1}{10}$

Level 7 Classification - Fractions (Positive Rationals), Multiplication	41 Descriptor - Multiplying Fractions Role, Student

		6 3 6 2 0	

OBJECTIVE: **Given three common fractions, the student will compute and write their product in lowest terms.**

SAMPLE ITEM: Compute and write the product. Put answer in lowest terms.

$$\frac{2}{9} \times \frac{7}{8} \times \frac{2}{14}$$

Answer: $\frac{1}{36}$

Level 7 Classification - Fractions (Positive Rationals), Multiplication	41 Descriptor - Multiplying Fractions Role, Student

		6 3 6 2 5	

OBJECTIVE: Given a whole number and a fraction, the student will compute the quotient in lowest terms.

SAMPLE ITEM: Find the quotient in lowest terms:

$$5 \div \frac{1}{2} =$$

Answer: 10

Level 7 Classification - Fractions (Positive Rationals), Division	41 Descriptor - Division of Fractions Role, Student

		6 3 6 3 0	

OBJECTIVE: **Given two like fractions, the student will compute the quotient in lowest terms.**

SAMPLE ITEM: Find the quotient in lowest terms.

$$\frac{3}{8} \div \frac{2}{8} =$$

Answer: $1\frac{1}{2}$ or $\frac{3}{2}$

Level 7 Classification - Fractions (Positive Rationals), Division	41 Descriptor - Division of Fractions Role, Student

		6 3 6 3 5	

OBJECTIVE: **Given two unlike fractions, the student will compute the quotient in lowest terms.**

SAMPLE ITEM: Find the quotient in lowest terms:

$$\frac{1}{2} \div \frac{3}{4} =$$

Answer: $\frac{2}{3}$

Level 7 Classification - Fractions (Positive Rationals), Division	41 Descriptor - Division of Fractions Role, Student

		6 3 6 4 0	

OBJECTIVE: Given two fractions, the student will find their quotient in lowest terms.

SAMPLE ITEM: Divide: $3\frac{3}{4} \div \frac{5}{2}$

Answer: $\frac{3}{2}$ or $1\frac{1}{2}$

Level 7 Classification - Fractions (Positive Rationals), Division	41 Descriptor - Division of Fractions Role, Student

		6 3 6 4 5	

OBJECTIVE: Given expressions involving multiplication and division of fractions, the student will simplify these expressions and reduce them to lowest terms.

SAMPLE ITEM: Simplify and reduce to lowest terms:

$$\frac{2}{3} \times \frac{5}{8} \div \frac{15}{6}$$

Answer: $\frac{1}{6}$

Level 7 Classification - Fractions (Positive Rationals), Division	41 Descriptor - Multiplying and Dividing of Fractions Role, Student

		6 3 6 5 0		

OBJECTIVE: **Given an addition or multiplication example, with three addends or three factors, the student will rewrite the problem using the associative property.**

SAMPLE ITEM: Rewrite the following problem using the associative property.

$$\frac{1}{5} \times (\frac{7}{8} \times \frac{2}{3})$$

Answer: $(\frac{1}{5} \times \frac{7}{8}) \times \frac{2}{3}$

Level 7 Classification - Fractions (Positive Rationals), Properties/Reciprocals/ Multiplicative Inverse	41 Descriptor - Associative Property, Fractions Role, Student

		6 3 6 5 5		

OBJECTIVE: **Given an addition or multiplication example, with two addends or two factors, the student will rewrite the problem using the commutative property.**

SAMPLE ITEM: **Rewrite the following example by using the commutative property of addition:**

$$\frac{3}{7} + \frac{5}{9}$$

Answer: $\frac{5}{9} + \frac{3}{7}$

Level 7 Classification - Fractions (Positive Rationals), Properties/Reciprocals/ Multiplicative Inverse	41 Descriptor - Commutative Property, Fractions Role, Student

		6 3 6 6 0	

OBJECTIVE: **Given a number example, the student will rewrite the example using the distributive property.**

SAMPLE ITEM: Rewrite the following expression using the distributive property:

$$\frac{4}{7} \times (\frac{8}{9} + \frac{3}{4}) =$$

Answer: $(\frac{4}{7} \times \frac{8}{9}) + (\frac{4}{7} \times \frac{3}{4})$

Level 7 Classification - Fractions (Positive Rationals), Properties/Reciprocals/ **Multiplicative** Inverse	41 Descriptor - Distributive Property, Fractions Role, Student

		6 3 6 6 5	

OBJECTIVE: **Given a list of rational number sentences, the student will select and write the sentence which uses the multiplicative or additive identity.**

SAMPLE ITEM: **Which of the following number sentences uses the additive identity?**

A. $\frac{3}{7} + 0 = \frac{3}{7}$

B. $\frac{2}{3} + \frac{1}{3} = 1$

C. $\frac{1}{8} \times \frac{8}{1} = 1$

D. $\frac{4}{3} \times \frac{6}{6} = \frac{4}{3}$

Answer: A

Level 7 Classification - Fractions (Positive Rationals), Properties/Reciprocals/ **Multiplicative** Inverse	41 Descriptor - Multiplicative Identity/Fractions Role, Student

		6 3 6 7 0	

OBJECTIVE: Given sets of numerals, the student will select those which are closed for addition or those which are closed for multiplication.

SAMPLE ITEM: Write the letter of the set below that is closed under addition.

A. $\left\{\frac{1}{2}, 1, 1\frac{1}{2}, 2, 2\frac{1}{2}, 3\right\}$

B. $\left\{\frac{1}{4}, \frac{1}{2}, \frac{3}{4}, \frac{4}{4}, 1\frac{1}{4}, 1\frac{1}{2}, 1\frac{3}{4}\right\}$

C. $\left\{0, \frac{1}{2}, 1, 1\frac{1}{2}, 2, 2\frac{1}{2}, 3 \ldots\right\}$

D. $\left\{0, \frac{2}{2}, \frac{3}{2}\right\}$

Answer: C

Level 7 Classification - Fractions (Positive Rationals), Properties/Reciprocals/ **Multiplicative** Inverse	41 Descriptor - Closure - Fractions Role, Student

		6 3 6 7 5	

OBJECTIVE: Given a fraction, the student will name its reciprocal or multiplicative inverse.

SAMPLE ITEM: What is the multiplicative inverse of $3\frac{1}{2}$?

Answer: $\frac{2}{7}$

Level 7 Classification - Fractions (Positive Rationals), Properties/Reciprocals/ **Multiplicative** Inverse	41 Descriptor - Reciprocals Role, Student

		6 3 6 8 0	

OBJECTIVE: Given a whole number, the student will write the reciprocal.

SAMPLE ITEM: Write the reciprocal of 10.

Answer: $\frac{1}{10}$

Level 7 Classification - Fractions (Positive Rationals), Properties/Reciprocals/ **Multiplicative** Inverse	41 Descriptor - Reciprocals Role, Student

Decimals

		6 3 6 8 5		

OBJECTIVE: Given two or more decimal fractions, the student will find their sum.

SAMPLE ITEM: Add: .25 + .371 + .9

Answer: 1.521

Level 7 Classification - Decimals, Addition	41 Descriptor - Adding Decimals Role, Student

		6 3 6 9 0		

OBJECTIVE: Given a series of decimal numbers each with the same number of decimal places, the student will compute the sum.

SAMPLE ITEM: 1.6, 1.8, 3.5, and 1.7.

Answer: 8.6

Level 7 Classification - Decimals, Addition	41 Descriptor - Adding Decimals Role, Student

		6 3 6 9 5		

OBJECTIVE: Given a series of decimal numbers with different decimal places, the student will compute the sum.

SAMPLE ITEM: Add: 2.03, 2.067 and 3.3

Answer: 7.397

Level 7 Classification - Decimals, Addition	41 Descriptor - Adding Decimals Role, Student

		6 3 7 0 0		

OBJECTIVE: Given a series of decimal numbers and whole numbers, the student will compute the sum.

SAMPLE ITEM: Add: 7.35, 10 and 2.001

Answer: 19.351

Level 7 Classification - Decimals, Addition	41 Descriptor - Adding Decimals Role, Student

		6 3 7 0 5	

OBJECTIVE: **Given four or less mixed decimal fractions, each six digits or less, the student will compute the sum.**

SAMPLE ITEM: Add the following:

16.732 + 18.209 + .698

Answer: 35.639

Level 7 Classification - Decimals, Addition	41 Descriptor - Adding Decimals Role, Student

		6 3 7 1 0	

OBJECTIVE: Given two decimal fractions, the student will find their difference.

SAMPLE ITEM: Subtract: 3.471 - 1.695

Answer: 1.776

Level 7 Classification - Decimals, Subtraction	41 Descriptor - Subtracting Decimals Role, Student

		6 3 7 1 5	

OBJECTIVE: **Given two mixed decimal fractions, each six digits or less, the student will compute and write the difference.**

SAMPLE ITEM: Compute and write the difference:

$$\begin{array}{r} 27.1978 \\ -\ 23.7828 \\ \hline \end{array}$$

Answer: 3.4150

Level 7 Classification - Decimals, Subtraction	41 Descriptor - Subtracting Decimals Role, Student

		6 3 7 2 0	

OBJECTIVE: **Given two decimal numbers with three decimal places in each, the student will compute the difference.**

SAMPLE ITEM: Subtract: 34.525 from 67.568

Answer: 33.043

Level 7 Classification - Decimals, Subtraction	41 Descriptor - Subtracting Decimals Role, Student

		6 3 7 2 5		

OBJECTIVE: **Given two decimals with three decimal places in the minuend and two in the subtrahend, the student will find the difference.**

SAMPLE ITEM: Subtract: 3.473 - 0.12 =

Answer: 3.353

Level 7 Classification - Decimals, Subtraction	41 Descriptor - Subtracting Decimals Role, Student

		6 3 7 3 0		

OBJECTIVE: Given a decimal number, the student will indicate how many places the decimal will be moved to the right when multiplying by 10, 100 and 1,000.

SAMPLE ITEM: Multiply: 6.25 x 10 =

Answer: 62.5

Level 7 Classification - Decimals, Multiplication	41 Descriptor - Multiplying Decimals Role, Student

		6 3 7 3 5	

OBJECTIVE: Given two decimal numbers and the product, the student will locate the decimal point.

SAMPLE ITEM: Insert the decimal point in the product to make the following statement true:

5.9 x 3.6 = 2124

Answer: 21.24

Level 7 Classification - Decimals, Multiplication	41 Descriptor - Multiplying Decimals Role, Student

		6 3 7 4 0	

OBJECTIVE: Given two decimal fractions, the student will find their product.

SAMPLE ITEM: Find the product: 3.24 x .153

Answer: .49572

Level 7 Classification - Decimals, Multiplication	41 Descriptor - Multiplying Decimals Role, Student

		6 3 7 4 5		

OBJECTIVE: Given two mixed decimal fractions, each four digits or less, the student will compute and write their product.

SAMPLE ITEM: Compute and write the product:

11.17 x 16.34

Answer: 182.5178

Level 7 Classification - Decimals, Multiplication	41 Descriptor - Multiplying Decimals Role, Student

		6 3 7 5 0		

OBJECTIVE: Given a whole number to be divided by a power of 10, the student will compute the quotient.

SAMPLE ITEM: Divide: 24 ÷ 10 =

Answer: 2.4

Level 7 Classification - Decimals, Division	41 Descriptor - Dividing Decimals Role, Student

		6 3 7 5 5	

OBJECTIVE: Given a decimal number, the student will indicate how many places the decimal will be moved to the left when dividing by 10, 100, and 1,000.

SAMPLE ITEM: Insert the decimal point in the quotient to make the following statement true:

$$25.55 \div 10 = 2555$$

Answer: 2.555

Level 7 Classification - Decimals, Division	41 Descriptor - Dividing Decimals Role, Student

		6 3 7 6 0	

OBJECTIVE: Given two decimal fractions, the student will find their quotient.

SAMPLE ITEM: Divide: $7.01851 \div 1.37$

Answer: 5.123

Level 7 Classification - Decimals, Division	41 Descriptor - Dividing Decimals Role, Student

		6 3 7 6 5	

OBJECTIVE: Given a decimal dividend of five digits or less, and a 3-digit decimal divisor, the student will compute and write the quotient.

SAMPLE ITEM: Find and write quotient.

$$2.78\overline{).55878}$$

Answer: .201

Level 7 Classification - Decimals, Division	41 Descriptor - Dividing Decimals Role, Student

		6 3 7 7 0	

OBJECTIVE: Given a whole number divisor, a decimal dividend, and a quotient, the student will locate the decimal in the quotient.

SAMPLE ITEM: Insert the decimal point in the quotient to make the following statement true:

$$32.4 \div 4 = 81$$

Answer: 8.1

Level 7 Classification - Decimals, Division	41 Descriptor - Dividing Decimals Role, Student

		6 3 7 7 5		

OBJECTIVE: Given division of **two decimal numbers in which** the divisor has less decimal places than the dividend, the student will find the quotient.

SAMPLE ITEM: Divide: $14.7 \div 21 =$

Answer: .7

Level 7 Classification - Decimals, Division	41 Descriptor - Dividing Decimals Role, Student

		6 3 7 8 0		

OBJECTIVE: Given a common fraction, the student will convert it to its equivalent decimal fraction or given a decimal fraction, the student will convert it to its equivalent common fraction.

SAMPLE ITEM: Convert the following common fraction to its equivalent decimal fraction:

$\frac{6}{8} =$

Answer: .75

Level 7 Classification - Decimals, Changing to a fraction and vice versa	41 Descriptor - Changing Fractions to Decimals Role, Student

		6 3 7 8 5		

OBJECTIVE: Given a fraction with a power of 10 in the denominator, the student will express the fraction as a decimal.

SAMPLE ITEM: Write as a decimal: $\frac{1}{10}$ =

Answer: 0.1

Level 7 Classification - Decimals, Changing to a fraction and vice versa	41 Descriptor - Changing Fractions to Decimals Role, Student

		6 3 7 9 0		

OBJECTIVE: Given a fraction in which the prime factors are 2, 5, or both, the student will express the fraction as a decimal (**nonrepeating** decimal).

SAMPLE ITEM: Write as a decimal: $\frac{3}{10}$ =

Answer: 0.3

Level 7 Classification - Decimals, Changing to a fraction and vice versa	41 Descriptor - Changing Fractions to Decimals Role, Student

		6 3 7 9 5		

OBJECTIVE: Given a decimal numeral, the student will rename it as a common fraction.

SAMPLE ITEM: Change .125 to a common fraction.

Answer: $\frac{1}{8}$

Level 7 Classification - Decimals, Changing to a fraction and vice versa	41 Descriptor - Changing Decimals to Fractions Role, Student

		6 3 8 0 0		

OBJECTIVE: Given a decimal number of no more than four digits, the student will express it as a fraction in lowest terms.

SAMPLE ITEM: Write as a fraction in lowest terms: 0.4

Answer: $\frac{2}{5}$

Level 7 Classification - Decimals, Changing to a fraction and vice versa	41 Descriptor - Changing Decimals to Fractions Role, Student

		6 3 8 0 5	

OBJECTIVE: Given a decimal fraction, the student will round it off to an indicated plac

SAMPLE ITEM: Round 13.452 to the nearest tenth.

Answer: 13.5

Level 7 Classification - Decimals, Rounding Off	41 Descriptor - Rounding Off Decimals Role, Student

		6 3 8 1 0	

OBJECTIVE: Given a terminating or repeating decimal, **six digits or less, the student will round off** the given number to tenths, hundredths, thousandths, or ten thousandths.

SAMPLE ITEM: Round off the following number to the nearest hundredths:

0.6743198

Answer: 0.67

Level 7 Classification - Decimals, Rounding Off	41 Descriptor - Rounding Off Decimals Role, Student

		6 3 8 1 5		

OBJECTIVE: Given a 4-digit decimal number, the student will round the number to the indicated place.

SAMPLE ITEM: Round off to the nearest hundredth: 0.6274

Answer: 0.63

Level 7 Classification - Decimals, Rounding Off	41 Descriptor - Rounding Off Decimals Role, Student

		6 3 8 2 0		

OBJECTIVE: Given a common fraction, the student will express the fraction as a decimal to the nearest thousandths.

SAMPLE ITEM: Write as a fraction to the nearest thousandths:

$\frac{3}{16}$ =

Answer: 0.188

Level 7 Classification - Decimals, Rounding Off	41 Descriptor - Rounding Off Decimals Role, Student

		6 3 8 2 5	

OBJECTIVE: Given a decimal numbersuch as 25.4, the student will divide the number by a decimal number such as 5.32 and express the quotient to the nearest thousandths, locate decimal point.

SAMPLE ITEM: Divide: $357.0 \div 0.17 =$

Answer: 2100

Level 7 Classification - Decimals, Rounding Off	41 Descriptor - Rounding Off Decimals Role, Student

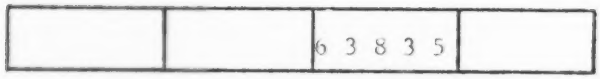
		6 3 8 3 0	

OBJECTIVE: Given a decimal fraction, the student will name the place value for an indicated digit.

SAMPLE ITEM: Given the number 123.45678. Name the digit in the hundredths place.

Answer: 5

Level 7 Classification - Decimal, Place Value	41 Descriptor - Place Value in Decimal Notation Role, Student



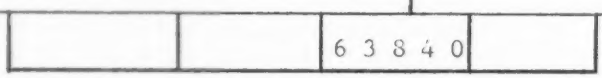
OBJECTIVE: Given a 4-digit number, the student will identify the indicated place value.

SAMPLE ITEM: What is the value of the underlined digit below?

.3555

Answer: 5 thousandths

Level 7 Classification - Decimals, Place Value	41 Descriptor - Place Value in Decimal Notation Role, Student



OBJECTIVE: Given a repeating decimal, the student will express the repeating decimal as a fraction.

SAMPLE ITEM: Write as a fraction: 0.333...

Answer: $\frac{1}{3}$

Level 7 Classification - Decimals, Repeating and terminating	41 Descriptor - Repeating and Terminating Decimals Role, Student

		6 3 3 4 5	

OBJECTIVE: Given a common fraction, the student will express the fraction as a repeating decimal.

SAMPLE ITEM: Write as a repeating decimal: $\frac{1}{3}$ =

Answer: 0.333...

Level 7 Classification - Decimals, Repeating and Terminating	.41 Descriptor - Repeating and Terminating Decimals Role, Student

		6 3 8 5 0	

OBJECTIVE: Given a fraction, the student will change it to a terminating or repeating decimal fraction.

SAMPLE ITEM: Change $\frac{7}{8}$ to a decimal fraction.

Answer: .875

Level 7 Classification - Decimals, Repeating and Terminating	41 Descriptor - Repeating and Terminating Decimals Role, Student

		6 3 8 5 5	

OBJECTIVE: **Given a list of four positive decimals, the student will list the decimals in order from smallest to largest.**

SAMPLE ITEM: List in order from smallest to largest:

a) 1.300
b) 1.250
c) 1.025
d) 2.200

Answer: (c), (b), (a), (d)

Level 7 Classification - Decimals, Order (Comparing Fractions)	41 Descriptor - Comparing Decimals Fractions Role, Student

		6 3 8 6 0	

OBJECTIVE: Given **two decimal numbers and three symbols for** equality or inequality, the student will select the symbol demonstrating a relationship between the **two numbers.**

SAMPLE ITEM: Using the symbols $>$, $<$ or $=$, fill in the $\square$.

1.03 $\square$ 1.3

Answer: $<$

Level 7 Classification - Decimals, Order (Comparing Fractions)	41 Descriptor - Comparing Decimals Fractions Role, Student

		6 3 8 6 5		

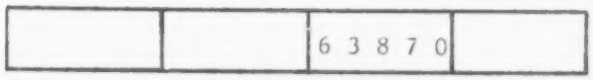
OBJECTIVE: Given a set of decimal fractions, the student will arrange them in either ascending or descending order using either the greater than ($>$) symbol or the less than ($<$) symbol.

SAMPLE ITEM: Arrange $\{.25, .375, .875, .5\}$ in descending order, using the greater than symbol.

Answer: $.875 > .5 > .375 > .25$

Level 7 Classification - Decimals, Order (Comparing Fractions)	41 Descriptor - Comparing Decimals Fractions Role, Student

Integers

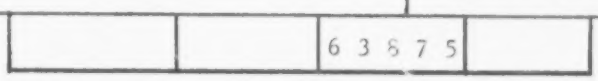


OBJECTIVE: Given two integers with the same sign, the student will find their sum.

SAMPLE ITEM: Add: -7 + -3

Answer: -10

Level 7 Classification - Integers, Addition	41 Descriptor - Addition of Integers with Like Signs Role, Student



OBJECTIVE: Given two integers with different signs, the student will find their sum.

SAMPLE ITEM: Add: -7 + 4

Answer: -3

Level 7 Classification - Integers, Addition	41 Descriptor - Addition of Integers with Unlike Signs Role, Student

		6 3 8 8 0	

OBJECTIVE: Given any two integers, the student will compute and write the sum.

SAMPLE ITEM: Compute and write the following sum:

$(+10) + (-5) =$

Answer: (+5)

Level 7 Classification - Integers, Addition	41 Descriptor - Addition of Integers with Unlike Signs Role, Student

		6 3 8 8 5	

OBJECTIVE: Given two integers, the student will find their difference.

SAMPLE ITEM: Find the difference: $(-7) - (-6)$

Answer: -1

Level 7 Classification - Integers, Subtraction	41 Descriptor - Subtraction of Integers Role, Student

		6 3 8 9 0	

OBJECTIVE: Given two integers with the same sign, the student will find their product.

SAMPLE ITEM: Multiply: (-9) (-8)

Answer: +72

Level 7 Classification - Integers, Multiplication	41 Descriptor - Multiplication of Integers Role, Student

		6 3 8 9 5	

OBJECTIVE: Given two integers with different signs, the student will find their product.

SAMPLE ITEM: Multiply: (-12) (+5)

Answer: -60

Level 7 Classification - Integers, Multiplication	41 Descriptor - Multiplication of Integers Role, Student

		6 3 9 0 0	

OBJECTIVE: Given any **two integers, the student will compute** and write the product.

SAMPLE ITEM: For the following integers, compute the product.

$(+3) \times (-4) =$

Answer: -12

Level 7 Classification - Integers, Multiplication	41 Descriptor - Multiplication of Integers Role, Student

		6 3 9 0 5	

OBJECTIVE: Given two integers, the student will find their quotient.

SAMPLE ITEM: Divide: $(+20) \div (-5)$

Answer: -4

Level 7 Classification - Integers, Division	41 Descriptor - Division of Integers Role, Student

		6 3 9 1 0	

OBJECTIVE: Given the indicated sum or product of three integers, the student will use the associative property to arrange the numbers in another way.

SAMPLE ITEM: Rewrite -7 + (6 - 2) using the associative property.

Answer: (-7 + 6) -2 or (-7 + 6) + (-2)

Level 7 Classification - Integers, Properties	41 Descriptor - Associative Property - Integers Role, Student

		6 3 9 1 5	

OBJECTIVE: Given the indicated sum or product of two integers, the student will use the commutative property to rewrite the numbers.

SAMPLE ITEM: Rewrite -5 + 3 using the commutative property.

Answer: +3 + (-5)

Level 7 Classification - Integers, Properties	41 Descriptor - Commutative Property - Integers Role, Student

		6 3 9 2 0	

OBJECTIVE: Given an expression involving integers, the student will rewrite the expression as an equivalent expression using the distributive property.

SAMPLE ITEM: Rewrite -3 (-2 +4) using the distributive property.

Answer: (-3 x -2) + (-3 x 4) or +6 + -12

Level 7 Classification - Integers, Properties	41 Descriptor - **Commutative** Property - Integers Role, Student

		6 3 9 2 5	

OBJECTIVE: Given a set of integers, the student will list the set of additive inverses of these integers.

SAMPLE ITEM: Given $\{-7, +5\}$. List the additive inverses of these elements.

Answer: $\{+7, -5\}$ or $\{-5, +7\}$

Level 7 Classification - Integers, Properties	41 Descriptor - Inverses - Integers Role, Student

		6 3 9 3 0	

OBJECTIVE: Given an expression using absolute value, the student will simplify it.

SAMPLE ITEM: Simplify by giving the absolute value:

$$|-5-2|$$

Answer: 7

Level 7 Classification - Integers, Absolute Value	41 Descriptor - Absolute Value Role, Student

Ratio, Proportion, and Percent

		6 3 9 3 5	

OBJECTIVE: Given a percent, the student will write its equivalent decimal fraction or given a decimal fraction, the student will write its equivalent percent.

SAMPLE ITEM: What is the equivalent decimal for 21%?

Answer: .21

Level 7 Classification - Ratio, Proportion, and Percent, Percent	41 Descriptor - Converting Percent/Decimal/Ratio/Fraction Role, Student

		6 3 9 4 0	

OBJECTIVE: Given a number, the student will compute and write a given percent of that number.

SAMPLE ITEM: Compute and write 30% of 150.

Answer: 45

Level 7 Classification - Ratio, Proportion, and Percent, Percent	41 Descriptor - Computing Percents Role, Student

		6 3 9 4 5		

OBJECTIVE: Given a percent, the student will compute and write a number when a percent of it is given.

SAMPLE ITEM: 22 is 40% of what number?

Answer: 55

Level 7 Classification - Ratio, Proportion, and Percent, Percent	41 Descriptor - Computing Percents Role, Student

		6 3 9 5 0		

OBJECTIVE: Given **two numbers, the student will compute** and write the percent one number is of the other number.

SAMPLE ITEM: 8 is what percent of 40?

Answer: 20%

Level 7 Classification - Ratio, Proportion, and Percent Percent	41 Descriptor Computing Percents Role, Student

		6 3 9 5 5	

OBJECTIVE: Given a percentage problem, the student will find the solution.

SAMPLE ITEM: 3 is what percent of 12?

Answer: 25%

Level 7 Classification - Ratio, Proportion, and Percent, Percent	41 Descriptor - Computing Percents Role, Student

		6 3 9 6 0	

OBJECTIVE: Given a verbally stated problem involving percents, the student will determine the solution.

SAMPLE ITEM: How much copper is in 28 pounds of an alloy containing 5% copper?

Answer: 1.4 lbs. or $1\frac{2}{5}$ lbs.

Level 7 Classification - Ratio, Proportion, and Percent, Percent	41 Descriptor - Computing Percents Role, Student

		6 3 9 7 0	

OBJECTIVE: Given a ratio, the student will rewrite it in simplest form.

SAMPLE ITEM: Write the following ratio in simplest terms:

14:56

Answer: 1:4

Level 7 Classification - Ratio, Proportion, and Percent, Ratio	41 Descriptor - Ratio into Simplest Form Role, Student

		6 3 9 7 5	

OBJECTIVE: Given a ratio, the student will rename it as a decimal.

SAMPLE ITEM: Change 3:4 to a decimal.

Answer: .75

Level 7 Classification - Ratio, Proportion, and Percent, Ratio	41 Descriptor - Converting Percent/Decimal/Ratio/Fractions Role, Student

		6 3 9 8 0	

OBJECTIVE: Given a decimal fraction, the student will rename it as a ratio in lowest terms.

SAMPLE ITEM: Change .5 to a ratio in lowest terms.

Answer: 1:2

Level 7 Classification - Ratio, Proportion, and Percent, Ratio	41 Descriptor - Converting Percent/Decimal/Ratio/Fractions Role, Student

		6 3 9 8 5	

OBJECTIVE: Given two numbers or two related measures stated as ratios, the student will express the ratio in lowest terms.

SAMPLE ITEM: Express the ratio in lowest terms: 36:3

Answer: 12:1

Level 7 Classification - Ratio, Proportion, and Percent, Ratio	41 Descriptor - Ratio Into Simplest Form Role, Student

		6 3 9 9 0	

OBJECTIVE: Given a percent, the student will rename it as a ratio in lowest terms.

SAMPLE ITEM: Express 87% as a ratio in lowest terms.

Answer: 87 : 100

Level 7 Classification - Ratio, Proportion, and Percent, Changing Ratio to Percent and Vice Versa	41 Descriptor - Converting Percent/Decimal/Ratio/Fraction Role, Student

		6 3 9 9 5	

OBJECTIVE: Given a percent, the student will write its equivalent common fraction in lowest terms.

SAMPLE ITEM: Write the equivalent common fraction for $83\frac{1}{3}\%$.

Answer: $\frac{5}{6}$

Level 7 Classification - Ratio, Proportion, and Percent, Changing Ratio to Percent and Vice Versa	41 Descriptor - Converting Percent/Decimal/Ratio/Fraction Role, Student

		6 4 0 0 0	

OBJECTIVE: Given a common fraction the student will write its equivalent percent.

SAMPLE ITEM: Write the equivalent percent for $\frac{4}{5}$.

Answer: 80%

Level 7 Classification - Ratio, Proportion, and Percent, Changing Ratio to Percent and Vice Versa	41 Descriptor - Converting Percent/Decimal/Ratio/Fraction Role, Student

		6 4 0 0 5	

OBJECTIVE: Given a ratio, the student will rename it as a percent.

SAMPLE ITEM: Change 9 : 10 to a percent.

Answer: 90%

Level 7 Classification - Ratio, Proportion, and Percent, Changing Ratio to Percent and Vice Versa	41 Descriptor - Converting Percent/Decimal/Ratio/Fraction Role, Student

		6 4 0 1 0	

OBJECTIVE: Given the definition of a proportion with a word missing, the student will identify in writing the missing word.

SAMPLE ITEM: A ratio of one number to a second number is the same as the ratio of a third number to a fourth number. This relationship is known as a ___?___.

Answer: Proportion

Level 7 Classification - Ratio, Proportion, and Percent, Proportion	41 Descriptor - Proportion - Definition Role, Student

		6 4 0 1 5	

OBJECTIVE: Given a proportion, the student will find the missing term.

SAMPLE ITEM: Find the missing term: 5:10 = ?:2

Answer: 1

Level 7 Classification - Ratio, Proportion, and Percent, Proportion	41 Descriptor - Solving Proportions Role, Student

Measurement

		6 4 0 2 0	

OBJECTIVE: Given a line segment and a metric ruler, the student will give the length of the line segment in metric units.

SAMPLE ITEM: In centimeters, how long is the line segment below?

Answer: 5 cm.

Level 7 Classification - Measurement, Linear - English Metric	41 Descriptor - Operations with Linear Measure Role, Student

		6 4 0 2 5	

OBJECTIVE: Given a metric unit of measure of length, the student will express it in a larger or smaller metric unit.

SAMPLE ITEM: Change 4.8 meters into **millimeters.**

Answer: 4800 mm.

Level 7 Classification - Measurement, Linear - English Metric	41 Descriptor - **Converting** Linear Measure Role, Student

		6 4 0 3 0	

OBJECTIVE: Given a metric unit of measure of volume, the student will express it in a larger or smaller metric unit.

SAMPLE ITEM: 547 liter = _____ kl.

Level 7 Classification - Measurement, Volume - English/Metric/Dry Measure	41 Descriptor - Converting Linear Measure Role, Student

		6 4 0 3 5	

OBJECTIVE: Given a metric unit of measure of weight, the student will express it in a larger or smaller metric unit

SAMPLE ITEM: 16 cg. = _____ mg.

Answer: 160

Level 7 Classification - Measurement, Weight - English/Metric	41 Descriptor - Converting Weights Role, Student

		6 4 0 4 0	

OBJECTIVE: Given a measurement in the English system, the student will change it to a measurement in the metric system.

SAMPLE ITEM: 5 inches = 12.70 cm.

Level 7 Classification - Measurement, Mixed Measure/Compound Measure/ Tables	41 Descriptor - Converting Linear Measure Role, Student

		6 4 0 4 5	

OBJECTIVE: Given a measurement in the metric system, the student will change it to a measurement in the English system.

SAMPLE ITEM: 2 liters = _____ quarts.

Answer: 2.114

Level 7 Classification - Measurement, Mixed Measure/Compound Measure/ Tables	41 Descriptor - Operations with Measurement Role, Student

		6 4 0 5 0	

OBJECTIVE: Given a measure in the metric system, the student will divide by a given number.

SAMPLE ITEM:

$$\begin{array}{r} 4.1 \text{ m.} \\ \hline 3)\overline{12.3 \text{ m.}} \end{array}$$

Level 7 Classification - Measurement, Mixed Measure/Compound Measure/ Tables	41 Descriptor - Operations with Measurement Role, Student

		6 4 0 5 5	

OBJECTIVE: Given a measure in the metric system, the student will multiply by a given number.

SAMPLE ITEM:

$$\begin{array}{r} 3.83 \text{ l.} \\ \times \quad 6 \\ \hline 22.98 \text{ l.} \end{array}$$

Level 7 Classification - Measurement, Mixed Measure/Compound Measure/ Tables	41 Descriptor - Operations with Measurement Role, Student

		6 4 0 6 0	

OBJECTIVE: Given measure in the metric system, the student will find the sum of the measures.

SAMPLE ITEM:

1 m.
2 dm.
3 m.
4.2 m. or 42 dm.

Level 7 Classification - Measurement, Mixed Measure/Compound Measure/ Tables	41 Descriptor - Operations with Measurement Role; Student

		6 4 0 6 5	

OBJECTIVE: Given two measures in the metric system, the student will find the difference between the two.

SAMPLE ITEM: 1 m - 6 dm = 4 dm

Level 7 Classification - Measurement, Mixed Measure/Compound Measure/ Tables	41 Descriptor - Operations with Measurement Role, Student

Geometry

		6 4 0 7 0	

OBJECTIVE: Given four polygons, the student will select and write the one which is a parallelogram, rectangle, or square.

SAMPLE ITEM: In the following figures, write the letter that labels the parallelogram.

Answer: C

Level 7 Classification - Geometry, Identifying Figures	41 Descriptor - Identifying Plane Figures Role, Student

		6 4 0 7 5	

OBJECTIVE: Given a plane figure, the student will name the figure as being a pentagon, hexagon, octagon, or decagon.

SAMPLE ITEM: The following polygon is known as a(n) _____.

Answer: Hexagon

Level 7 Classification - Geometry, Identifying Figures	41 Descriptor - Identifying Plane Figures Role, Student

		6 4 0 8 0	

OBJECTIVE: The student will write the number of endpoints found on a line, line segment or ray.

SAMPLE ITEM: How many endpoints determine a line segment?

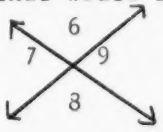
Answer: 2

Level 7 Classification - Geometry, Lines	41 Descriptor - Lines, Line Segments, Rays Role, Student

		6 4 0 8 5	

OBJECTIVE: Given intersecting lines, the student will select and write either pair of vertical angles.

SAMPLE ITEM: In the following diagram, list a pair of numbers that would represent vertical angles.



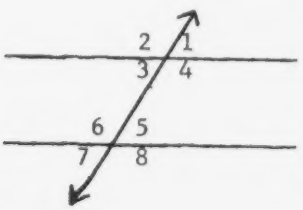
Answer: {7, 9} or {6, 8}

Level 7 Classification - Geometry, Lines	41 Descriptor - Lines, Line Segments, Rays Role, Student

		6 4 0 9 0		

OBJECTIVE: Given a diagram containing at least two parallel lines and a transversal, the student will identify pairs of corresponding, alternate interior, or alternate exterior angles.

SAMPLE ITEM: Identify one pair of corresponding angles.



Answer: $\angle 2$ & $\angle 6$; $\angle 1$ & $\angle 5$; $\angle 3$ & $\angle 7$; $\angle 4$ & $\angle 8$

Level 7 Classification - Geometry, Lines	41 Descriptor - Parallels and Perpendicular Lines Role, Student

		6 4 0 9 5		

OBJECTIVE: Given pairs of lines, the student will select the pair that appears to be parallel or perpendicular.

SAMPLE ITEM: Write the letter which labels a pair of perpendicular lines.

A.

C.

B.

D.

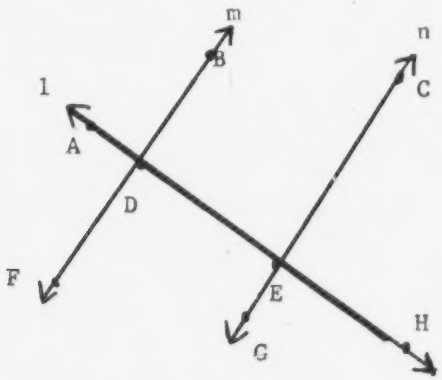
Answer: C

Level 7 Classification - Geometry, Lines	41 Descriptor - Parallels and Perpendicular Lines Role, Student

		6 4 1 0 0	

OBJECTIVE: For a given diagram, the student will determine the intersection and union of points, lines, line segments, and rays.

SAMPLE ITEM: In the given diagram, find: $\overrightarrow{DE} \cap \overrightarrow{HA}$



Answer: $\overline{DH}$

Level 7 Classification - Geometry, Lines	41 Descriptor - Lines, Line Segments, Rays Role, Student

		6 4 1 0 5	

OBJECTIVE: Given an angle, the student will name and write the classification of that angle as being acute, right, obtuse, or straight.

SAMPLE ITEM: The picture below is an example of a(n) _____.

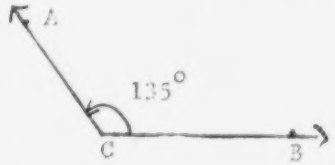
Answer: Obtuse angle

Level 7 Classification - Geometry, Angles	41 Descriptor - Angles Classification Role, Student

		6 4 1 1 4	

OBJECTIVE: Given an angle and its measure, the student will classify the angle.

SAMPLE ITEM: Given an angle which measures 135°. Classify this angle according to measure.



Answer: An angle with a measure of 135° is an obtuse angle.

Level 7 Classification - Geometry, Angles	41 Descriptor - Angles Classification Role, Student

		6 4 1 1 5	

OBJECTIVE: Given a definition of an angle, the student will change the incorrect underlined word and write the correct word to make the sentence true.

SAMPLE ITEM: Two rays with a common endpoint form an ___?___.

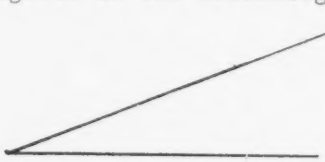
Answer: Angle

Level 7 Classification - Geometry, Angles	41 Descriptor - Angle - Definition Role, Student

		6 4 1 2 0	

OBJECTIVE: Given an angle, the student will measure it using a protractor, writing the measure to the nearest 2 degrees.

SAMPLE ITEM: Using a protractor, measure and write the number of degrees in the following angles.



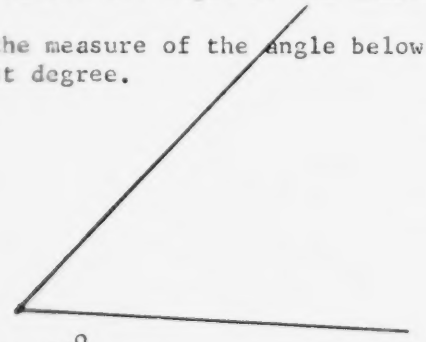
Answer: 20°

Level 7 Classification - Geometry, Angles	41 Descriptor - Measuring Angles Using Protractor Role, Student

		6 4 1 2 5	

OBJECTIVE: Given an angle and a protractor, the student will measure the angle to the nearest degree.

SAMPLE ITEM: Find the measure of the angle below to the nearest degree.



Answer: 50°

Level 7 Classification - Geometry, Angles	41 Descriptor - Measuring Angles Using Protractor Role, Student

		6 4 1 3 0	

OBJECTIVE: Given four pairs of angles measures, the student will identify the pair which is complementary.

SAMPLE ITEM: An example of a pair of complementary angles is a) 10° and 88°, b) 70° and 110°, c) 75° and 15°, d) 25° and 35°.

Answer: C

Level 7 Classification - Geometry, Angles	41 Descriptor - Angles Classification Role, Student

		6 4 1 3 5	

OBJECTIVE: Given an angle, the student will find and write its complement (the complementary angle).

SAMPLE ITEM: What is the complement of a 42° angle?

Answer: 48°

Level 7 Classification - Geometry, Angles	41 Descriptor - Angles Classification Role, Student

		6 4 1 4 0	

OBJECTIVE: Given an angle, the student will find and write its supplement (the supplementary angle).

SAMPLE ITEM: Write the supplement of an angle of 25°.

Answer: 155°

Level 7 Classification - Geometry, Angles	41 Descriptor - Angles Classification Role, Student

		6 4 1 4 5	

OBJECTIVE: Given **four pairs of angle measures, the student** identify the pair which is supplementary.

SAMPLE ITEM: Which of the following are supplementary:

a) 25° and 75°

b) 100° and 80°.

c) 45° and 45°

d) 90° and 50°

Answer: (b)

Level 7 Classification - Geometry, Angles	41 Descriptor - Angles Classification Role, Student

		6 4 1 5 0	

OBJECTIVE: Given a polygon or its verbal description, the student will classify it.

SAMPLE ITEM: Classify a polygon of eight sides.

Answer: Octagon

Level 7 Classification - Geometry, Polygons/Polyhedra	41 Descriptor - Polygons Role, Student

		6 4 1 5 5	

OBJECTIVE: Given a quadrilateral or its verbal description, the student will classify it either as a square, a **rectangle**, a rhombus, a parallelogram, or a trapezoid.

SAMPLE ITEM: Classify a quadrilateral with opposite sides parallel, and containing no right angle.

Answer: parallelogram

Level 7 Classification - Geometry, Polygons/Polyhedra	41 Descriptor - Polygons Role, Student

		6 4 1 6 5	

OBJECTIVE: Given a definition of a circle, with a key word omitted, the student will write the missing word.

SAMPLE ITEM: The set of all points in a plane that are at a given distance from a given point O in the plane is called a _____?_____.

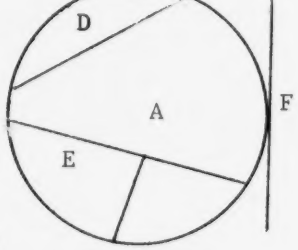
Answer: Circle

Level 7 Classification - Geometry, Circles	41 Descriptor - Definition of Circles Role, Student

		6 4 1 7 0	

OBJECTIVE: Given a circle, the student will select an indicated arc.

SAMPLE ITEM: In the diagram below, write the letter that labels an arc of the circle.



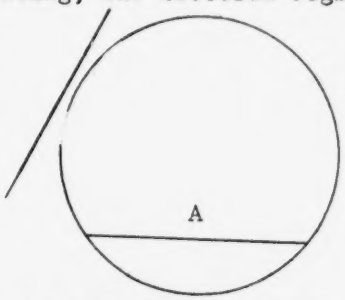
Answer: D

Level 7 Classification - Geometry, Circles	41 Descriptor - Identifying Parts of a Circle Role, Student

		6 4 1 7 5	

OBJECTIVE: Given a circle, the student will name, by writing, the lettered segment as a chord.

SAMPLE ITEM:



On the above circle segment A is known as a ___?___.

Answer: Chord

Level 7 Classification - Geometry, Circles	41 Descriptor - Identifying Parts of a Circle Role, Student

		6 4 1 8 0	

OBJECTIVE: Given the definition of a **semicircle, with** one underlined word being incorrect, the student will change that word to make the sentence correct.

SAMPLE ITEM: One half of a circle is also known as a ___?___.

Answer: **semicircle**

Level 7 Classification - Geometry, Circles	41 Descriptor - Identifying Parts of a Circle Role, Student

		6 4 1 8 5	

OBJECTIVE: Given the radius or diameter of a circle, the student will find the circumference.

SAMPLE ITEM: Given a circle with radius 7 ft. Find the circumference.

Answer: 44 ft. or 43.96 ft.

Level 7 Classification - Geometry, Circles	41 Descriptor - Circumference of a Circle Role, Student

		6 4 1 9 0	

OBJECTIVE: Given the radius or diameter of a circle, the student will find the area.

SAMPLE ITEM: Find the area of a circle with a diameter of 7 ft.

Answer: $\frac{77}{2}$ sq.ft. or $38\frac{1}{2}$ sq. ft. or 38.465 sq. ft.

Level 7 Classification - Geometry, Circles	41 Descriptor - Area of a Circle Role, Student

		6 4 1 9 0	0 0 0 0 5

OBJECTIVE: Given the symbol for pi, the student will identify its approximate value.

SAMPLE ITEM: The approximate value of π is:

Answer: $\frac{22}{7}$ or 3.14 or $3\frac{1}{7}$

Level 7 Classification - Geometry, Circles	41 Descriptor - Value of PI Role, Student

		6 4 1 9 5	

OBJECTIVE: Given a circle with the dimension of the radius or diameter, the student will compute the circumference of the circle.

SAMPLE ITEM: The circumference of a circle whose radius is 5 is 10π. (Answer may be left in terms of π.)

Level 7 Classification - Geometry, Circles	41 Descriptor - Circumference of a Circle Role, Student

		6 4 2 0 0	

OBJECTIVE: The student will write the names of **the sets, or the** number of sets a simple closed curve separates a plane into. (interior, exterior, and curve itself)

SAMPLE ITEM: A simple closed curve divides a plane into how many sets?

Answer: 3

Level 7 Classification - Geometry, Curves (Open and Closed)	41 Descriptor - Closed Curves Role, Student

		6 4 2 1 0	

OBJECTIVE: Given **two lines, two planes, or a line and a plane,** the student will name and write the intersection formed by the given pairs.

SAMPLE ITEM: The intersection of a plane with a line not parallel to or on the plane is a _____.

Answer: Point

Level 7 Classification - Geometry, Coordinate Geometry	41 Descriptor - Planes Role, Student

		6 4 2 1 5		

OBJECTIVE: Given the length and width of a rectangle, the student will find the area.

SAMPLE ITEM: Find the area of a rectangle whose length is 6 ft. and whose width is 4 ft.

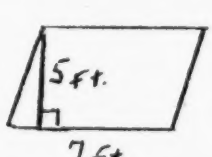
Answer: 24 sq. ft.

Level 7 Classification - Geometry Area/Perimeter/Volume	41 Descriptor - Area of a Rectangle Role, Student

		6 4 2 2 0		

OBJECTIVE: Given the base and height of a parallelogram, the student will find the area.

SAMPLE ITEM: Find the area of the parallelogram;



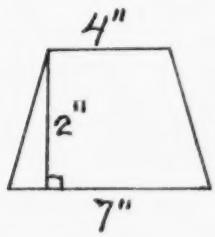
Answer: 35 sq. ft.

Level 7 Classification - Geometry Area/Perimeter/Volume	41 Descriptor - Area of a Parallelogram Role, Student

		6 4 2 2 5		

OBJECTIVE: Given the height and bases of a trapezoid, the student will find the area.

SAMPLE ITEM: Find the area of the trapezoid:



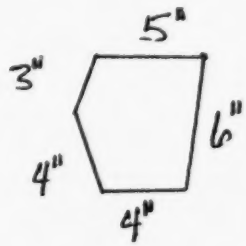
Answer: 11 sq. in.

Level 7 Classification - Geometry, Area/Perimeter/Volume	41 Descriptor - Area of a Trapezoid Role, Student

		6 4 2 3 0		

OBJECTIVE: Given the lengths of the sides of a polygon, the student will find the perimeter.

SAMPLE ITEM: Find the perimeter:



Answer: 22"

Level 7 Classification - Geometry, Area/Perimeter/Volume	41 Descriptor - Perimeter Role, Student

		6 4 2 3 5	

OBJECTIVE: Given the length and width of a rectangle, the student will compute and write the perimeter.

SAMPLE ITEM: The length of a rectangle is 17 inches and the width of the rectangle is 24 inches. What is the perimeter of the rectangle?

Answer: 82 in.

Level 7 Classification - Geometry, Area/Perimeter/Volume	41 Descriptor - Perimeter Role, Student

		6 4 2 4 0	

OBJECTIVE: Given the name or number of congruent sides of an equilateral, isosceles, or scalene triangle, the student will identify and write the name of the figure.

SAMPLE ITEM: A scalene triangle has _____ sides of equal length.

Answer: 0 or no

Level 7 Classification - Geometry, Triangles/Congruence/Similarity	41 Descriptor - Classification of Triangles Role, Student

		6 4 2 4 5		

OBJECTIVE: (a) Given a triangle or its verbal description, the student will classify it, based on the relationships of its sides.
(b) Given a triangle or its verbal description, the student will classify it based on the relationships of its angles.

SAMPLE ITEM:

(a) Classify a triangle in which no two sides are equal in length.
(b) Classify a triangle which contains an obtuse angle.

Answer: (a) scalene triangle
(b) obtuse triangle

Level 7 Classification - Geometry Triangles/Congruence/Similarity	41 Descriptor - Classification of Triangles Role, Student

		6 4 2 5 0		

OBJECTIVE: Given a triangle, the student will identify it as acute, obtuse, or right.

SAMPLE ITEM: If the triangle below were to be named according to the size of the angles, it would be called a(n) ____?____.

Answer: Obtuse triangle

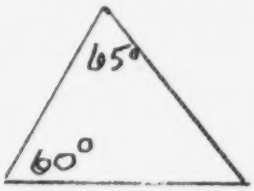
Level 7 Classification - Geometry Triangles/Congruence/Similarity	41 Descriptor - Classification of Triangles Role, Student

		6 4 2 5 5		

OBJECTIVE:

Given the degree measure of two angles of a triangle, the student will compute the measure of the third.

SAMPLE ITEM: Find the degree measure of the designated angle.



Answer: 55°

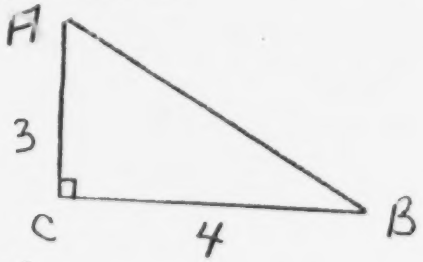
Level 7 Classification - Geometry Triangles/Congruence/Similarity	41 Descriptor - Sum of the Angles of a Triangle Role, Student

		6 4 2 6 0		

OBJECTIVE:

Given two sides of a right triangle, the student will compute the hypotenuse.

SAMPLE ITEM: In the right triangle below, find the length of the hypotenuse AB.



Answer: 5

Level 7 Classification - Geometry Triangles/Congruence/Similarity	41 Descriptor - Pythagorean Theorem Role, Student

		6 4 2 6 5	

OBJECTIVE: Given the base and height of a triangle, the student will find the area.

SAMPLE ITEM: Find the area of a triangle with the base 6 in. and the height to that base 3 in.

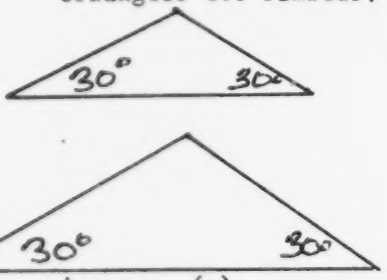
Answer: 9 sq. in.

Level 7 Classification - Geometry, Triangles/Congruence/Similarity	41 Descriptor - Area of a Triangle Role, Student

		6 4 2 7 0	

OBJECTIVE: From a given list, the student will select the method for proving 2 triangles similar.

SAMPLE ITEM: Which method explains why the following triangles are similar:



a) angle-side-angle

b) side-side-side

c) angle-angle

d) side-angle-side

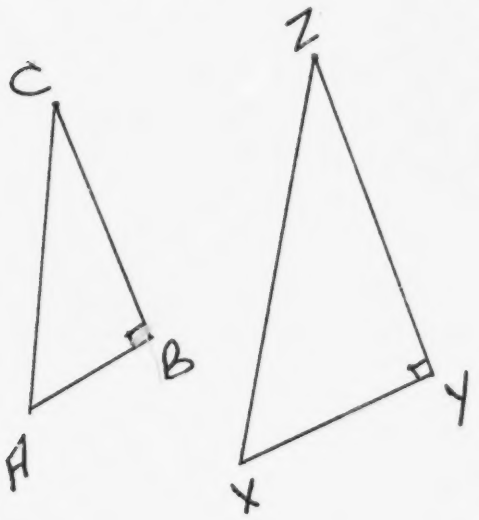
Answer: (c)

Level 7 Classification - Geometry, Triangles/Congruence/Similarity	41 Descriptor - Similarity Role, Student

		6 4 2 7 5	

OBJECTIVE: Given **two similar triangles, the student will** set up the correct proportion.

SAMPLE ITEM: Complete the proportion for the two similar triangles below:



$$\frac{AB}{XY} = \frac{AC}{}$$

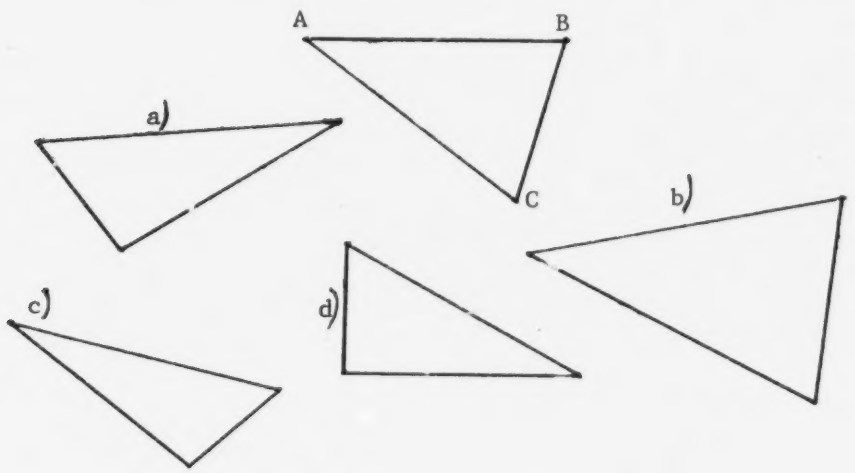
Answer: XZ

Level 7 Classification - Geometry, Triangles/Congruence/Similarity	41 Descriptor - Similarity Role, Student

		6 4 2 3 0		

OBJECTIVE: Given a triangle and a compass, the student will select the similar triangle to the given triangle from a group of **four triangles.**

SAMPLE ITEM: Using your compass and protractor, triangle ABC is similar to which of the following triangles?



Answer: b

Level 7 Classification - Geometry, Triangles/Congruence/Similarity	41 Descriptor - Similarity Role, Student

		6 4 2 8 5	

OBJECTIVE: Given a line segment A and a compass, the student will identify from **four other line** segments which one is congruent to line segment A.

SAMPLE ITEM: Using a compass find the line segment congruent to _____.

a. _____

b. _____

c. _____

d. _____

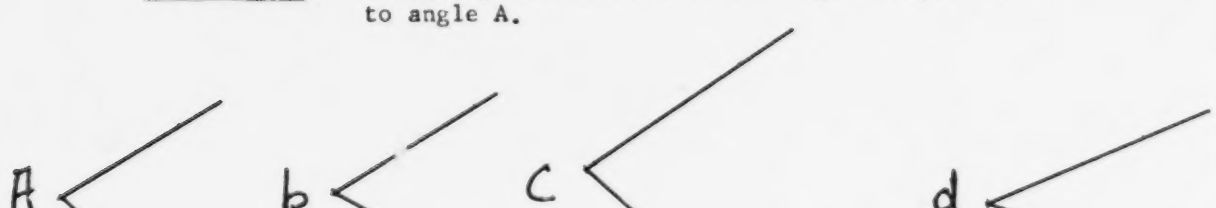
Answer: c

Level 7 Classification - Geometry, Triangles/Congruence/Similarity	41 Descriptor - Congruence Role, Student

		6 4 2 9 0	

OBJECTIVE: Given angle A, and a compass, the student will identify from **four other angles which one** is congruent with angle A.

SAMPLE ITEM: Using a protractor, find the angle congruent to angle A.



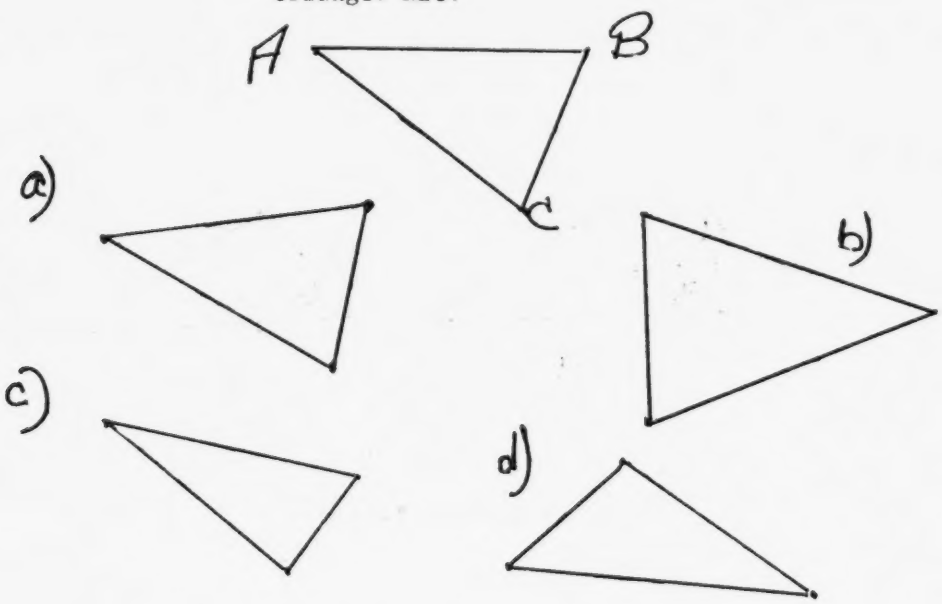
Answer: c

Level 7 Classification - Geometry, Triangles/Congruence/Similarity	41 Descriptor - Congruence Role, Student

		6 4 2 9 5		

OBJECTIVE: Given triangle A and a compass, the student will identify from **four other triangles which** one is congruent with A.

SAMPLE ITEM: Using protractor and compass which of the following triangles are congruent to triangle ABC?



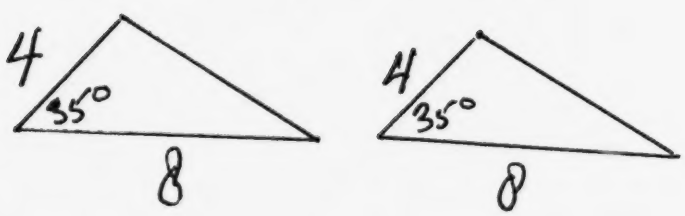
Answer: a

Level 7 Classification - Geometry, Triangles/Congruence/Similarity	41 Descriptor - Congruence Role, Student

		6 4 3 0 0	

OBJECTIVE: The student will identify one method of proving congruence of triangles from a list of **four methods.**

SAMPLE ITEM: Why are the triangles below congruent?



a) side-angle-side

b) angle-side-angle

c) side-side-side

d) angle-angle-angle

Answer: a

Level 7 Classification - Geometry, Triangles/Congruence/Similarity	41 Descriptor - Congruence Role, Student

Problem Solving/Word Problems

		6 4 3 0 5		

OBJECTIVE: Given a word problem with **two steps involving** whole numbers, the student will compute and write the solution.

SAMPLE ITEM: Bob can drive to Ohio in 7 hours, Florida in 24 hours, and Texas in 35 hours. How much longer would it take Bob to drive to Texas than to both Ohio and Florida?

Answer: 4 hours

Level 7 Classification - Problem Solving/Word Problems, Problems involving Operations on Whole Numbers	41 Descriptor - Word Problems - Whole Numbers Role, Student

		6 4 3 1 0		

OBJECTIVE: Given a word problem with 3 steps, involving whole numbers, the student will compute and write the solution.

SAMPLE ITEM: An airport has 3 hangers each capable of holding 9 airplanes. The first one was full and each of the others had 2 empty spaces. How many planes were being housed at the airport?

Answer: 23

Level 7 Classification - Problem Solving/Word Problems, Problems involving Operations on Whole Numbers	41 Descriptor - Word Problems - Whole Numbers Role, Student

		6 4 3 1 5	

OBJECTIVE: Given a verbally stated problem involving the operations of addition and subtraction with whole numbers, the student will find the solution.

SAMPLE ITEM: There are 8 students in the music club and 14 in the art club. How many students would be present at a joint meeting of the clubs if all members were present and no student belonged to both clubs.

Answer: 22

Level 7 Classification - Problem Solving/Word Problems, Problems involving Operations on Whole Numbers	41 Descriptor - Word Problems - Whole Numbers Role, Student

		6 4 3 2 0	

OBJECTIVE: Given a verbally stated problem involving the operations of multiplication and division of whole numbers, the student will find the solution.

SAMPLE ITEM: A dump truck carries 2 tons each trip it makes. If it makes 3 trips on Monday and 4 trips on Tuesday, how many tons does it move in 2 days?

Answer: 14 tons

Level 7 Classification - Problem Solving/Word Problems, Problems involving Operations on Whole Numbers	41 Descriptor - Word Problems - Whole Numbers Role, Student

		6 4 3 2 5		

OBJECTIVE: Given a fractional part of an unknown number and the resulting product, the student will find the unknown number.

SAMPLE ITEM: Half of a number is 12. What is the number?

Answer: 24

Level 7 Classification - Problem Solving/Word Problems, Problems involving Operations on Fractions	41 Descriptor - Word Problems - Fractions Role, Student

		6 4 3 3 0		

OBJECTIVE: Given a word problem with **two steps involving** common fractions, the student will compute and write the solution.

SAMPLE ITEM: At a recent auction, $\frac{1}{5}$ of the objects were sold between 8:00 p.m. and 9:00 p.m., $\frac{2}{3}$ of the objects were sold between 9:00 p.m. and 10:00 p.m. What fractional part of the objects were left to be sold between 10:00 p.m. and midnight?

Answer: $\frac{2}{15}$

Level 7 Classification - Problem Solving/Word Problems, Problems involving Operations on Fractions	41 Descriptor - Word Problems - Fractions Role, Student

		6 4 3 3 5	

OBJECTIVE: Given a word problem with **three steps involving** common fractions, the student will compute and write the solution.

SAMPLE ITEM: Jim sat in class for 2 hours. He spent $\frac{1}{2}$ of that time reading and 1/3 of the remaining time talking to Pete. How much time did Jim actually pay attention to the teacher?

Answer: 40 minutes

Level 7 Classification - Problem Solving/Word Problems, Problems involving Operations on Fractions	41 Descriptor - Word Problems - Fractions Role, Student

		6 4 3 4 0	

OBJECTIVE: Given a word problem with **two steps involving** decimal fractions, the student will compute and write the solution.

SAMPLE ITEM: Mrs. Ball had $.83 left when she came home from the store. She had spent $2.79 for meat and $2.35 for groceries. How much money did she have before she went to the store?

Answer: $5.97

Level 7 Classification - Problem Solving/Word Problems, Problems involving Operations on Decimals	41 Descriptor - Word Problems - Decimals Role, Student

		6 4 3 4 5	

OBJECTIVE: Given a word problem with **three steps involving** decimal fractions, the student will compute and write the solution.

SAMPLE ITEM: Tony and Dan had to work 8 hours on a given day. If they spend .125 of their time eating lunch, and .0625 of their time at a coffee break, how much time would they spend working?

Answer: .8125 of 8 hrs. or 6½ hours

Level 7 Classification - Problem Solving/Word Problems, Problems involving Operations on Decimals	41 Descriptor - Word Problems - Decimals Role, Student

		6 4 3 5 0	

OBJECTIVE: Given a verbally stated problem, involving decimal fractions, the student will find the solution.

SAMPLE ITEM: Before setting out on a trip, Mr. Dunn filled the gas tank of his automobile. During the trip he bought gasoline twice. At one stop he bought 10.9 gallons, and at another, 12.4 gallons. When he returned home he found that he needed 7.2 gallons to fill the tank to its 20-gallon capacity. How much gas did he use on the trip?

Answer: 30.5 **gallons**

Level 7 Classification - Problem Solving/Word Problems, Problem involving Operations on Decimals	41 Descriptor - Word Problems - Decimals Role, Student

		6 4 3 5 5	

OBJECTIVE: Given any **two of the following items: interest,** rate, or principle, the student will compute and write the unknown value.

SAMPLE ITEM: Bob put $300 in a savings account. He received interest at the rate of 4% per year. How much interest would he receive for the first year?

Answer: $12.00

Level 7 Classification - Problem Solving/Word Problems, Consumer Mathematics	41 Descriptor - Word Problems - Consumer Mathematics Role, Student

		6 4 3 6 0	

OBJECTIVE: Given any **two of the following items: cost,** discount or rate of discount, the student will compute and write the unknown value.

SAMPLE ITEM: Last week a baseball glove at Caldor's cost $15.00. This week the same glove is being sold at an 8% discount. If Mike buys the glove this week, how much will he have to pay for it?

Answer: $13.80

Level 7 Classification - Problem Solving/Word Problems, Consumer Mathematics	41 Descriptor - Word Problems - Consumer Mathematics Role, Student

		6 4 3 5 5	

OBJECTIVE: Given any **two of the following items: sales,** commission, or rate of commission, the student will compute and write the unknown value.

SAMPLE ITEM: An encyclopedia salesman sold a set of encyclopedias for $350. If his rate of commission on this sale was 5%, how much did the salesman earn?

Answer: $17.50

Level 7 Classification - Problem Solving/Word Problems, Consumer Mathematics	41 Descriptor - Word Problems - Consumer Mathematics Role, Student

		6 4 3 7 0	

OBJECTIVE: Given any 2-step word problem involving percent, the student will compute and write the answer.

SAMPLE ITEM: Rosemary bought a new typewriter which costs $450. She put 20% down. How much does she have left to pay?

Answer: $360

Level 7 Classification - Problem Solving/Word Problems, Consumer Mathematics	41 Descriptor - Word Problems - Consumer Mathematics Role, Student

		6 4 3 7 5	

OBJECTIVE: Given a verbally stated problem involving fractions, the student will determine the solution.

SAMPLE ITEM: The flying time by **nonstop** jet from New York to Los Angeles is $5\frac{2}{3}$ hours. The return flight takes $4\frac{3}{4}$ hours. How much longer does it take to go from New York to Los Angeles than to go from Los Angeles to New York?

Answer: $\frac{11}{12}$ hour

Level 7 Classification - Problem Solving/Word Problems, Consumer Mathematics	41 Descriptor - Word Problems - Consumer Mathematics Role, Student

		6 4 3 8 5	

OBJECTIVE: Given a verbally stated problem involving integers, the student will determine the solution.

SAMPLE ITEM: The outside temperature taken at 7 a.m. one morning was 7 degrees below zero. At noon, the thermometer read 23 degrees. What was the change in temperature during those five hours?

Answer: 30 degrees

Level 7 Classification - Problem Solving/Word Problems, Integers	41 Descriptor - Word Problems - Integers Role, Student

Algebra

		6 4 3 9 0	

OBJECTIVE: Given a list of number sentences, the student will select and write the true or the false number sentence.

SAMPLE ITEM: Select the letter of the true number sentence.

A. $2 \div (4 \times 5) = (2 \div 4) \times (2 \times 5)$
B. $6 \times (3 + 4) = (6 \times 3) + (6 \times 4)$
C. $(6 + 3) \times 2 = 6 \div (3 \times 2)$
D. $8 - (4 \times 1) = 8 - (4 \div 1)$

Answer: B

Level 7 Classification - Algebra, Number Sentences/Open Sentences	41 Descriptor - True and False Number Sentences Role, Student

		6 4 3 9 5	

OBJECTIVE: Given an open number sentence, the student will compute and write the solution set using the correct order of operation.

SAMPLE ITEM: Solve the following number sentence:

$$8 + 2 - 6 \div 3$$

Answer: 8

Level 7 Classification - Algebra, Number Sentences/Open Sentences	41 Descriptor - Finding Solution Sets of Open Sentences Role, Student

		6 4 4 0 0		

OBJECTIVE: Given an open number sentence and a replacement set, the student will compute and write the solution set.

SAMPLE ITEM: In the following open number sentence, compute and write the solution set if the replacement set is the set of all prime numbers.

$$n + 2 < 5$$

Answer: 2

Level 7 Classification - Algebra, Number Sentences/Open Sentences	41 Descriptor - Finding Solution Sets of Open Sentences Role, Student

		6 4 4 0 5		

OBJECTIVE: Given an expression with whole numbers using the operations of addition, subtraction, multiplication, and division, the student will find the result.

SAMPLE ITEM: Find the result:

$$3 - 4 \times 3 \div 6 + 1 = ?$$

Answer: 2

Level 7 Classification - Algebra, Grouping (Use of Parentheses) Order of Operations	41 Descriptor - Ordering of Operations Role, Student

Statistics and Probability

		6 4 4 1 0	

OBJECTIVE: Given a table with all data complete, the student will answer a question requiring interpretation of the table.

SAMPLE ITEM: Using the table below: During January and February, the average number of children in school each day was the same for _____.

Average Number of Children in School Each Day

Month	First Grade		Second Grade	
	Boys	Girls	Boys	Girls
December	105	98	100	103
January	103	100	98	102
February	100	98	98	101

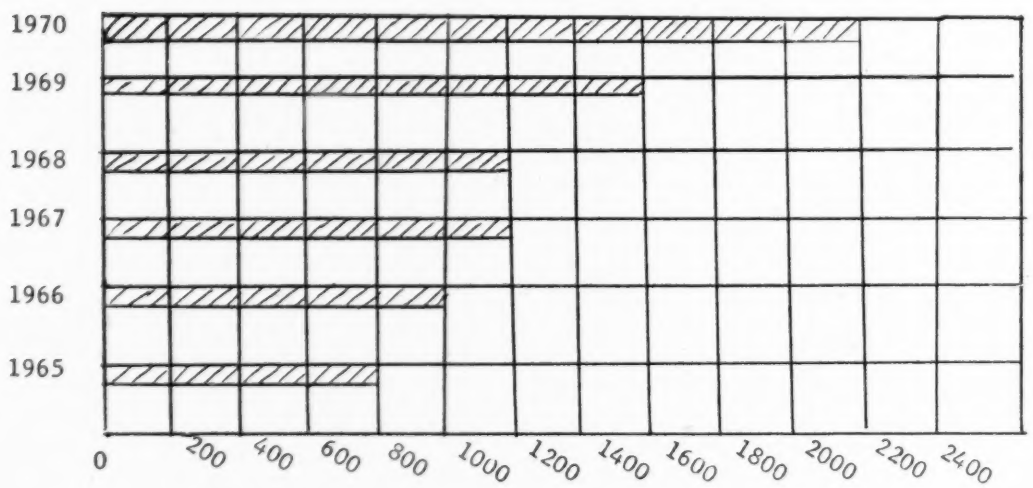
Answer: **second grade boys**

Level 7 Classification - Statistics and Probability, Graphs and Tables	41 Descriptor - Interpretation of Graphs Role, Student

		6 4 4 1 5	

OBJECTIVE: Given a bar graph or line graph, the student will write the value of any given item.

SAMPLE ITEM: The following bar graph shows the number of students enrolled at Central H.S. each year for the last 6 years. Using the information given, write the year in which the population of the school was twice the population of the year 1965.



Answer: 1969

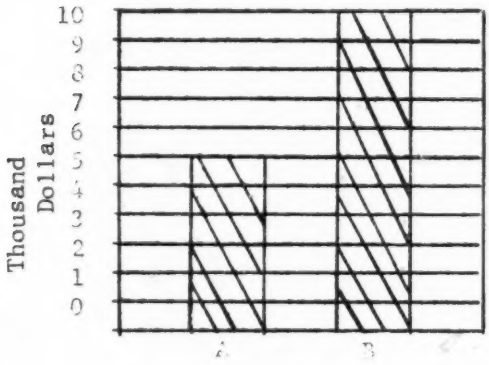
Level 7 Classification - Statistics and Probability, Graphs and Tables	41 Descriptor - Bar or Line Graphs Role, Student

		6 4 4 2 0	

OBJECTIVE: Given a bar graph, the student will answer a question requiring the interpretation of the graph.

SAMPLE ITEM: The bar graph below represents the comparison of salaries of two men. What was the salary of man A.

Comparison of salaries of man A and man B



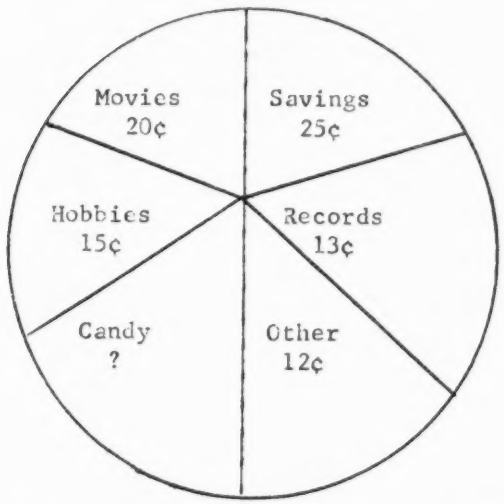
Answer: $5,000

Level 7 Classification - Statistics and Probability, Graphs and Tables	41 Descriptor - Interpretation of Bar Graphs Role, Student

		6 4 4 2 5		

OBJECTIVE: Given a circle graph, the student will write the value of any given item.

SAMPLE ITEM: The circle graph below shows how one dollar of Jim's allowance is used. How much does Jim spend on candy?



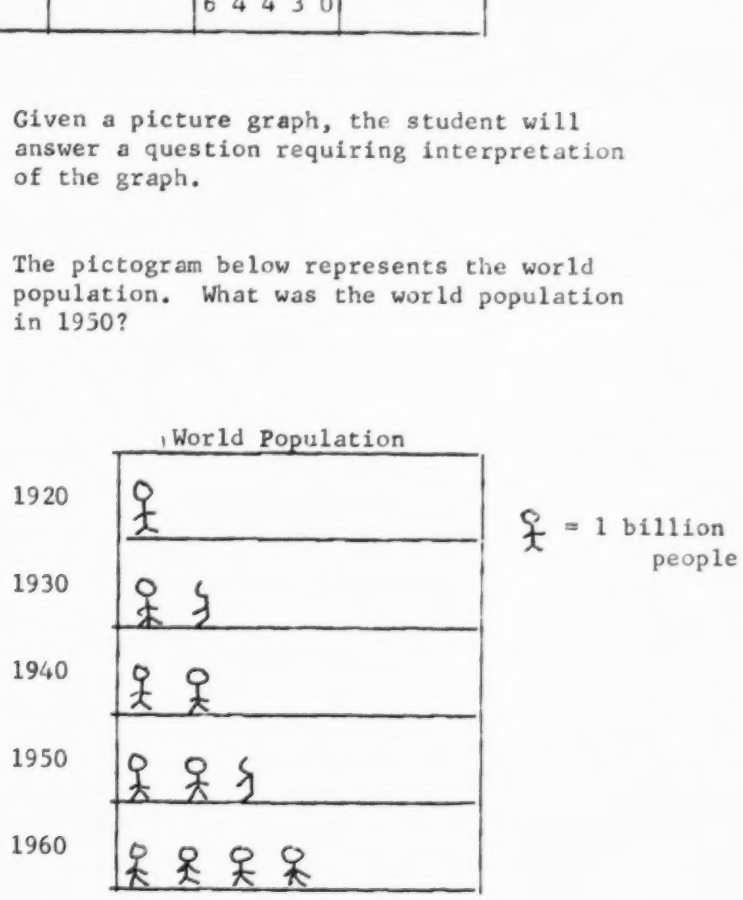
Answer: 15¢

Level 7 Classification - Statistics and Probability, Graphs and Tables	41 Descriptor - Interpretation of Circle Graphs Role, Student

		6 4 4 3 0		

OBJECTIVE: Given a picture graph, the student will answer a question requiring interpretation of the graph.

SAMPLE ITEM: The pictogram below represents the world population. What was the world population in 1950?



Answer: 2,500,000,000

Level 7
Classification - Statistics and Probability, Graphs and Tables

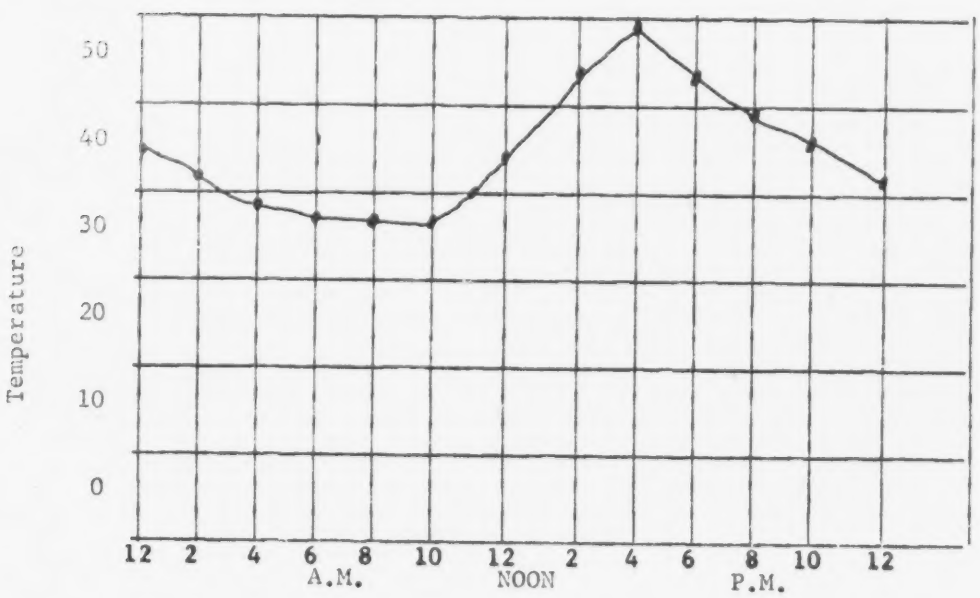
41 Descriptor - Interpretation of Pictographs

Role, Student

		6 4 4 3 5	

OBJECTIVE: Given a line graph, the student will answer a question requiring the interpretation of the graph.

SAMPLE ITEM: The line graph below shows that the hottest time of the day was _____.



Answer: 4 p.m.

Level 7 Classification - Statistics and Probability, Graphs and Tables	41 Descriptor - Interpretation of Line Graphs Role, Student

Supplementary

LEVEL 7

		6 6 5 5 0	

OBJECTIVE: Given a set containing objects, the student will select the proper and improper subsets of the set.

SAMPLE ITEM: Which are all of the subsets of $\{m\}$?

(A) $\emptyset, \{m\}$ (B) $\{\}, \emptyset, \{m, m,n\}$
(C) $\{\}, \emptyset, \{n\}$ (D) $\{\}, \emptyset, \{n, m, o\}$

Answer: (A)

Level 7 Classification - Sets Subsets - Empty Sets	41 Descriptor - Determining Subsets Role, Student

		6 6 5 6 0	

OBJECTIVE: Given two number phrases, the student will select the symbol greater than ($>$), less than ($<$), or equal to (=) which makes the sentence true.

SAMPLE ITEM: Select the symbol which makes $2 + 3 \square 3 + 2$ a true number sentence.

(A) $>$ (B) $\in$ (C) $<$ (D) =

Answer: (D)

Level 7 Classification - Number, Numeral, and Numeration Systems, Number Line/Inequalities	41 Descriptor - Inequalities on Whole Numbers Role, Student

		6 6 5 6 5	

OBJECTIVE: Given any number, nine digits or less, the student will select the value of any given digit.

SAMPLE ITEM: What is the value of the underlined digit?

3<u>9</u>9

(A) 9 ones (B) 9 hundreds
(C) 9 tenths (D) 9 tens

Answer: (D)

Level 7 Classification - Number, Numeral, and Numeration Systems, Place Value	41 Descriptor - Place Value Role, Student

		6 6 5 7 0	

OBJECTIVE: Given a Hindu-Arabic or Roman numeral, the student will select the equivalent Roman or Hindu-Arabic numeral.

SAMPLE ITEM: Change 19 to a Roman numeral.

(A) XIX (B) XXI (C) XVIIII (D) IXX

Answer: (A)

Level 7 Classification - Number, Numeral, and Numeration Systems, Roman Numerals	41 Descriptor - Roman Numerals Role, Student

		6 6 5 7 5	

OBJECTIVE: Given any number, the student will select the number in expanded form, using exponential notation.

SAMPLE ITEM: Select the expanded form of 1,284 using exponential notation.

(A) $(1 \times 1{,}000) + (2 \times 100) + 84$
(B) $(1 \times 10^3) + (2 \times 10^2) + (8 \times 10) + (4 \times 1)$
(C) $(1 \times 10^4) + (2 \times 10^3) + (8 \times 10^2) + 4$
(D) $1{,}000 + 200 + 80 + 4$

Answer: (B)

Level 7 Classification - Number, Numeral, and Numeration Systems, Expanded Notation	41 Descriptor - Expanded Notation Role, Student

		6 6 5 8 5	

OBJECTIVE: Given four numbers, four digits or less, the student will select the sum.

SAMPLE ITEM: Add:
$$\begin{array}{r} 32 \\ 23 \\ 46 \\ +\ 7 \\ \hline \end{array}$$

(A) 171 (B) 98 (C) 108 (D) 88

Answer: (C)

Level 7 Classification - Whole Numbers, Addition	41 Descriptor - Adding Whole Numbers Role, Student

		6 6 5 9 0	

OBJECTIVE: Given a sum which is six digits or less and one addend, the student will select the missing addend.

SAMPLE ITEM: Find the missing addend:

_____ + 12,352 = 26,756

(A) 13,304 (B) 13,404 (C) 14,304 (D) 14,404

Answer: (D)

Level 7 Classification - Whole Numbers, Subtraction	41 Descriptor - Subtraction - Whole Numbers with Borrowing Role, Student

		6 6 5 9 5	

OBJECTIVE: Given a dividend, six digits or less, and a divisor three digits or less, the student will select the quotient.

SAMPLE ITEM: Divide: 851 ÷ 23

(A) 73 (B) 37 (C) 32 (D) 23

Answer: (B)

Level 7 Classification - Whole Numbers, Division	41 Descriptor - Division Without Remainder Role, Student

		6 6 6 0 0	

OBJECTIVE: Given four number sentences, the student will select a number sentence using the associative property for addition or multiplication.

SAMPLE ITEM: Choose the number sentence which is an example of the associative property of addition.

(A) $37 + 16 = 16 \times 37$
(B) $37 + 29 = (37 \times 20) + (37 \times 9)$
(C) $37 + 16 = 16 + 37$
(D) $37 + (29 + 16) = (37 + 29) + 16$

Answer: (D)

Level 7 Classification - Whole Numbers, Properties/Inverse Operations	41 Descriptor - Associative - Whole Numbers Role, Student

		6 6 6 0 5	

OBJECTIVE: Given four number sentences, the student will select the sentence using the distributive property.

SAMPLE ITEM: Which number sentence uses the distributive property?

(A) $12 \times (17 + 19) = (12 \times 17) + (12 \times 19)$
(B) $12 \times (17 + 19) = (17 + 19) \times 12$
(C) $12 \times (17 + 19) = (12 \times 17) + 19$
(D) $12 \times (17 + 19) = (19 + 17) \times 12$

Answer: (A)

Level 7 Classification - Whole Numbers, Properties/Inverse Operations	41 Descriptor - Distributive - Whole Numbers Role, Student

		6 6 6 1 0	

OBJECTIVE: Given a list of four true number sentences, the student will select the sentence which uses the multiplicative or additive identity.

SAMPLE ITEM: Which of the following number sentences uses the multiplicative identity?

(A) $9 + 0 = 9$
(B) $9 - 9 = 0$
(C) $9 \times 1 = 9$
(D) $9 \times 9 = 81$

Answer: (C)

Level 7 Classification - Whole Numbers, Properties/Inverse Operations	41 Descriptor - Identity Element - Whole Numbers Role, Student

		6 6 6 1 5	

OBJECTIVE: Given sets of numerals, the student will select those which are closed for addition or multiplication.

SAMPLE ITEM: Select the set of numbers which is closed under addition.

(A) $\{0, 2, 4, 6, 8, 10\}$
(B) $\{0, 1, 2, 3, 4, 5\}$
(C) $\{0, 4, 6, 8, 12\}$
(D) $\{0, 4, 8, 12, 16, 20...\}$

Answer: (D)

Level 7 Classification - Whole Numbers, Properties/Inverse Operations	41 Descriptor - Closure - Whole Numbers Role, Student

		6 6 6 2 0	

OBJECTIVE: Given four number sentences, the student will select the number sentence which uses the commutative property of addition or multiplication.

SAMPLE ITEM: Which number sentence uses the commutative property of addition?

(A) $27 + 35 = (35 \times 27)$
(B) $19 + 16 = (10 \times 16) + (9 \times 16)$
(C) $27 + (35 + 16) = (27 + 35) + 16$
(D) $27 + 16 = 16 + 27$

Answer: (D)

Level 7 Classification - Whole Numbers, Properties/Inverse Operations	41 Descriptor - Commutative - Whole Numbers Role, Student

		6 6 6 2 5	

OBJECTIVE: Given a list of sets, the student will select the set containing prime numbers or composite numbers.

SAMPLE ITEM: Which of the following sets is made up only of composite numbers?

(A) $\{9, 15, 18, 23\}$
(B) $\{2, 4, 7, 9, 11\}$
(C) $\{4, 16, 25, 84\}$
(D) $\{5, 25, 30, 35\}$

Answer: (C)

Level 7 Classification - Whole Numbers, Prime/Composite	41 Descriptor - Identifying Numbers as Prime Composite Role, Student

		6 6 6 3 5	

OBJECTIVE: The student will select the sum of two mixed numbers, each with denominators not greater than 20.

SAMPLE ITEM: Add: $2\frac{1}{2} + 3\frac{3}{5}$

(A) $6\frac{1}{10}$ (C) $5\frac{3}{10}$

(B) $5\frac{4}{7}$ (D) $5\frac{4}{10}$

Answer: (A)

Level 7 Classification - Fractions (Positive Rationals), Addition	41 Descriptor - Addition of Mixed Numbers Role, Student

		6 6 6 4 0	

OBJECTIVE: The student will select the product of two proper fractions with denominators not greater than 100.

SAMPLE ITEM: Multiply: Find the value of n

$2/3 \times 5/6 = n$

(A) $n = 5/9$ (C) $n = 10/3$

(B) $n = 20/6$ (D) $n = 7/9$

Answer: (A)

Level 7 Classification - Fractions (Positive Rationals), Multiplication	41 Descriptor - Multiplying Fractions Role, Student

		6 6 6 4 5	

OBJECTIVE: Given the two common fractions, the student will select their quotient in lowest terms.

SAMPLE ITEM: Find the quotient: $9/15 \div 4/5$

(A) 3/4 (B) 2/3 (C) 4/3 (D) 4/5

Answer: (A)

Level 7 Classification - Fractions (Positive Rationals), Division	41 Descriptor - Division of Fractions Role, Student

		6 6 6 5 0	

OBJECTIVE: The student will select the quotient of one proper fraction divided by another proper fraction with denominators not greater than 20.

SAMPLE ITEM: Divide: Find the value of n

$3/4 \div 1/3 = n$

(A) $n = 3/12$ (B) $n = 1/4$
(C) $n = 9/4$ (D) $n = 13/12$

Answer: (C)

Level 7 Classification - Fractions (Positive Rationals), Division	41 Descriptor - Division of Fractions Role, Student

		6 6 6 6 0		

OBJECTIVE: Given four or less mixed decimal fractions, each four digits or less, the student will select the sum.

SAMPLE ITEM: Find the sum:

$$1.3 + 2.6 + .8 + 2$$

(A) 4.9 (B) 3.9 (C) 6.7 (D) 13.9

Answer: (C)

Level 7 Classification - Decimals, Addition	41 Descriptor - Adding Decimals Role, Student

		6 6 6 6 5		

OBJECTIVE: The student will select the sum of three decimal fractions presented in horizontal form. All decimal fractions will have zero digits beyond the ten thousandths place.

SAMPLE ITEM: Add: Find the value of n

$$1.5216 + 32.45 + .620 = n$$

(A) 10.9666 (C) 34.5916
(B) 24.669 (D) 1.9081

Answer: (C)

Level 7 Classification - Decimals, Addition	41 Descriptor - Adding Decimals Role, Student

		6 6 6 7 5	

OBJECTIVE: The student will select the quotient of two decimal fractions, a whole number divided by a decimal in thousandths.

SAMPLE ITEM: Divide:

$$.004\overline{)\ 28}$$

(A) 7 (B) 70 (C) 700 (D) 7000

Answer: (D)

Level 7 Classification - Decimals, Division	41 Descriptor - Dividing Decimals Role, Student

		6 6 6 7 0	

OBJECTIVE: Given two mixed decimal fractions, each four digits or less, the student will select the product.

SAMPLE ITEM: Multiply: 3.2 x 2.3

(A) 1.15 (B) 7.36 (C) 73.6 (D) 11.5

Answer: (B)

Level 7 Classification - Decimals, Multiplication	41 Descriptor - Multiplying Decimals Role, Student

		6 6 6 8 0	

OBJECTIVE: The student will select the common fraction equivalent of a decimal fraction with non-zero digits to the ten thousandths place. Mixed numbers allowed.

SAMPLE ITEM: The numeral 5,083 written in fraction form is:

(A) $5\frac{83}{10}$ (B) $5\frac{83}{100}$

(C) $5\frac{83}{1000}$ (D) $5\frac{83}{10000}$

Answer: (C)

Level 7 Classification - Decimals, Changing to a fraction and vice versa	41 Descriptor - Changing Decimals to Fractions Role, Student

		6 6 6 8 5	

OBJECTIVE: Given a common or decimal fraction, the student will select the equivalent decimal or common fraction.

SAMPLE ITEM: Select a common fraction that is equivalent to 125.

(A) 1/8 (B) 1/4 (C) 125/10000 (D) 125/100

Answer: (A)

Level 7 Classification - Decimals, Changing to a fraction and vice versa	41 Descriptor - Changing Fractions to Decimals Role, Student

		6 6 6 9 0	

OBJECTIVE: The student will select a decimal number (which has digits to the ten thousandths place) rounded to the nearest tenth.

SAMPLE ITEM: 4.2791 rounded to the nearest tenth is:

(A) 4.3 (B) 4.2 (C) 4.27 (D) 4.28

Answer: (A)

Level 7 Classification - Decimals, Rounding Off	41 Descriptor - Rounding Off Decimals Role, Student

		6 6 6 9 5	

OBJECTIVE: Given a mixed decimal fraction, eight digits or less, the student will select the number rounded off to any given place.

SAMPLE ITEM: Select the number rounded off to the nearest tenth:

21.8943

(A) 21.89 (B) 21.8 (C) 21.9 (D) 20

Answer: (C)

Level 7 Classification - Decimals, Rounding Off	41 Descriptor - Rounding Off Decimals Role, Student

		6 6 7 0 0	

OBJECTIVE: The student will select the digit in any place as small as ten-thousandths.

SAMPLE ITEM: Which numeral has 7 in the ten-thousandths place?

(A) 0.0070 (B) 0.0007
(C) 0.0700 (D) 0.7000

Answer: (B)

Level 7 Classification - Decimals, Place Value	41 Descriptor - Place Value in Decimal Notation Role, Student

		6 6 7 0 5	

OBJECTIVE: The student will select the decimal numeral from a written form. All fractions will have non-zero digits to the hundred-thousandths place.

SAMPLE ITEM: Three and forty-seven thousand two hundred fifty-six hundred-thousandths is written:

(A) .347256 (B) 347.25600
(C) 347,000.256 (D) 3.47256

Answer: (A)

Level 7 Classification - Decimals, Writing Decimals as Words and Vice Versa	41 Descriptor - Changing Words to Decimals Role, Student

		6 6 7 1 0	

OBJECTIVE: The student will select the correct order from smallest to largest of three decimal numbers (to hundredths).

SAMPLE ITEM: Write the numbers 4.2, 4.02, 4.22 from smallest to largest.

(A)	4.02	4.2	4.22
(B)	4.02	4.22	4.2
(C)	4.2	4.02	4.22
(D)	4.22	4.2	4.02

Answer: A

Level 7 Classification - Decimals, Order (comparing fractions)	41 Descriptor - Comparing Decimal Fractions Role, Student

		6 6 7 2 0	

OBJECTIVE: Given a common fraction and two decimal fractions, the student will select the proper order of size, from smallest to largest, of the three fractions.

SAMPLE ITEM: Arrange 1/2, .4, and 0.6 in order from smallest to largest.

(A)	.6	1/2	.4	(C)	.6	.4	1/2
(B)	.4	1/2	.6	(D)	.4	.6	1/2

Answer: B

Level 7 Classification - Decimals, Order (comparing fractions)	41 Descriptor - Comparing Decimal Fractions Role, Student

		6 6 7 5 0		

OBJECTIVE: Given two measures of different units, the student will select the ratio of the two measures.

SAMPLE ITEM: Express the ratio of the two measures, 1 inch to 1 ft.

(A) 1 : 1 (B) 1 : 6. (C) 12 : 1 (D) 1 : 12

Answer: (D)

Level 7 Classification - Ratio, Proportion, and Percent, Ratio	41 Descriptor - Finding Ratio Role, Student

		6 6 7 5 5		

OBJECTIVE: The student will select the number which completes a proportion of two ratios. All numbers will be less than 100.

SAMPLE ITEM: Find the missing number:

2 : 7 :: 4 : 12

(A) 4 (B) 6 (C) 8 (D) 10

Answer: (B)

Level 7 Classification - Ratio, Proportion, and Percent, Proportion	41 Descriptor - Solving Proportion Role, Student

		6 6 7 6 0	

OBJECTIVE: The student will select the value for n that correctly completes a number sentence which is an equality of two ratios.

SAMPLE ITEM: Find the value of n: 4/7 = n/84

(A) n = 3
(B) n = 12
(C) n = 48
(D) n = 21

Answer: (C)

Level 7 Classification - Ratio, Proportion, and Percent, Proportion	41 Descriptor - Solving Proportions Role, Student

		6 6 7 6 5	

OBJECTIVE: Given a common fraction or percent, the student will select the equivalent percent or fraction.

SAMPLE ITEM: Select the equivalent fraction for 35%.

(A) 3/5 (B) 35/10 (C) 5/3 (D) 7/20

Answer: (D)

Level 7 Classification - Ratio, Proportion, and Percent, Converting Percent to Fraction or Vice Versa	41 Descriptor - Converting Percent/Decimal/Ratio/Fraction Role, Student

		6 6 7 7 0	

OBJECTIVE: Given a percent or decimal fraction, the student will select the equivalent decimal fraction or percent.

SAMPLE ITEM: Select the equivalent percent for .25.

(A) 1/4% (B) 25% (C) 2.5% (D) 250%

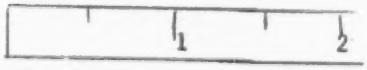
Answer: (B)

Level 7 Classification - Ratio, Proportion, and Percent, Converting Percent to Fraction or Vice Versa	41 Descriptor - Converting Percent/ Decimal/Ratio/Fraction Role, Student

		6 6 7 8 0	

OBJECTIVE: Students will be presented with a picture of a ruler calibrated in halves, quarters, eighths, or sixteenths along side of the ruler. The student will then select the mixed number or fraction that represents the length of the object to the nearest calibrated measurement.

SAMPLE ITEM: How long is the line segment to the nearest half inch?



(A) 1-1/2 in. (B) 2 in. (C) 1-3/4 in. (D) 2-1/2 in.

Answer: (A)

Level 7 Classification - Measurement, Precision	41 Descriptor - Precision of Measurements Role, Student

		66790	

OBJECTIVE: The student will discriminate from among various plane figures including rectangle, trapezoid, parallelogram, and pentagon.

SAMPLE ITEM: Identify the figure:

(A) rectangle
(B) trapezoid
(C) parallelogram
(D) pentagon

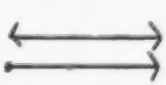
Answer: trapezoid

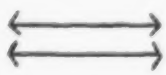
Level 7 Classification - Geometry, Identifying Figures	41 Descriptor - Identifying Plane Figures Role, Student

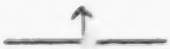
		66795	

OBJECTIVE: The student will discriminate from among the following: lines, segments, rays, parallels, and perpendiculars.

SAMPLE ITEM: Which of the following represents "a line parallel to a ray"?

(A) 

(B) 

(C) 

(D)

Answer: (A)

Level 7 Classification - Geometry, Lines	41 Descriptor - Lines, Line Segment Role, Student

		6 6 8 0 0	

OBJECTIVE: The student will discriminate from among various angles including right, acute, obtuse, and straight angles.

SAMPLE ITEM: Which of the following is an acute angle?

(A)

(C)

(B)

(D)

Answer: (D)

Level 7 Classification - Geometry, Angles	41 Descriptor - Angles - Classification Role, Student

		6 6 8 0 5	

OBJECTIVE: Given the measure of an angle, the student will select its complement or supplement.

SAMPLE ITEM: Select the complement of a 30° angle.

(A) 150° (B) 60° (C) 240° (D) 15°

Answer: (B)

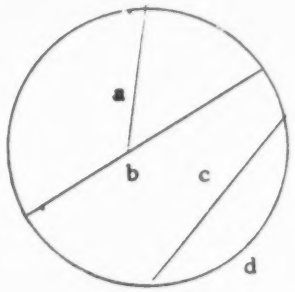
Level 7 Classification - Geometry, Angles	41 Descriptor - Complement or Supplement Role, Student

		6 6 8 1 0	

OBJECTIVE: Given a circle containing a chord, arc, radius, and diameter, the student will select any given one.

SAMPLE ITEM: Select the letter which shows the diameter of the circle:

(A) a (B) b (C) c (D) d



Answer: (B)

Level 7 Classification - Geometry, Circles	41 Descriptor - Identifying Parts of a Circle Role, Student

		6 6 8 1 5	

OBJECTIVE: Given the radius, the student will select the circumference of a circle using $\pi = 3.14$ or $\pi = 3\ 1/7$

SAMPLE ITEM: What is the circumference of a circle with a radius of 2 inches? (Use $\pi = 3.14$)

(A) 12.56 inches
(B) 3.14 inches
(C) 6.28 inches
(D) 9.42 inches

Answer: (A)

Level 7 Classification - Geometry, Circles	41 Descriptor - Circumference of a Circle Role, Student

		6 6 8 2 0	

OBJECTIVE: Given the radius of a circle, the student will select the area using $\pi = 3.14$ or $\pi = 3\ 1/7$.

SAMPLE ITEM: What is the area of a circle whose radius is 7 inches? (Use $\pi = 3\ 1/7$)

(A) 154 sq. in. (B) 144 sq. in.
(C) 22 sq. in. (D) 88 sq. in.

Answer: (A)

Level 7 Classification - Geometry, Circles	41 Descriptor - Area of a Circle Role, Student

		6 6 8 3 5	

OBJECTIVE: Given the dimensions of a square or rectangle, the student will select the perimeter or area.

SAMPLE ITEM: Find the perimeter of a square with a 4" side.

(A) 16 (B) 8 (C) 20 (D) 16

Answer: (D)

Level 7 Classification - Geometry, Area/Perimeter/Volume	41 Descriptor - Area or Perimeter Role, Student

		6 6 8 4 5	

OBJECTIVE: The student will select the answer to a one-step word problem involving division of whole numbers.

SAMPLE ITEM: A man has offered $25.00 to have his garage painted. Four kids agree to do the job and to divide the money evenly among themselves. How much will each kid get?

(A) $6.00
(B) $6.50
(C) $5.75
(D) $6.25

Answer: (D)

Level 7 Classification - Problem Solving/Word Problems, Problems involving Operations on Whole Numbers	41 Descriptor - Word Problems - Whole Numbers Role, Student

		6 6 8 5 0	

OBJECTIVE: The student will select the answer to a one-step word problem involving multiplication of whole numbers.

SAMPLE ITEM: Fourteen boys each collected 40 pounds of bottles. What was the total weight?

(A) 34 lbs.
(B) 560 lbs.
(C) 154 lbs.
(D) 460 lbs.

Answer: (B)

Level 7 Classification - Problem Solving/Word Problems, Problems involving Operations On Whole Numbers	41 Descriptor - Word Problems - Whole Numbers Role, Student

		6 6 8 5 5	

OBJECTIVE: The student will select the answer to a one-step word problem involving the addition of at least three decimal fractions in hundredths.

SAMPLE ITEM: Tim found rope sections 6.23, 12.89, and 11.04 inches long respectively. What is the total sum of all three lengths of rope?

(A) 29.89
(B) 30.16
(C) 29.98
(D) 30.13

Answer: (B)

Level 7 Classification - Problem Solving/Word Problems, Problems involving Operations on Decimals	41 Descriptor - Word Problems - Decimals Role, Student

		6 6 8 6 0	

OBJECTIVE: The student will select the answer to a word problem involving simple ratio and proportion.

SAMPLE ITEM: A junk man will pay 2 cents for every 3 pounds of scrap paper he gets. How much will he pay for 798 pounds of scrap paper?

(A) $23.94
(B) $15.96
(C) $5.32
(D) $1.60

Answer: (C)

Level 7 Classification - Problem Solving/Word Problems, Problems involving Percent/ Proportion/Ratio	41 Descriptor - Word Problems - Ratio-Proportion-Percent Role, Student

		6 6 8 6 5	

OBJECTIVE: Given a word problem involving a proportion, the student will select the answer.

SAMPLE ITEM: A mixture of grass seed is made up of 3 pounds of type A seed for every 5 pounds of type B seed. How many pounds of type B seed would be needed if 18 pounds of type A was used.

(A) 30 lbs. (B) 15 lbs. (C) 23 lbs. (D) 21 lbs.

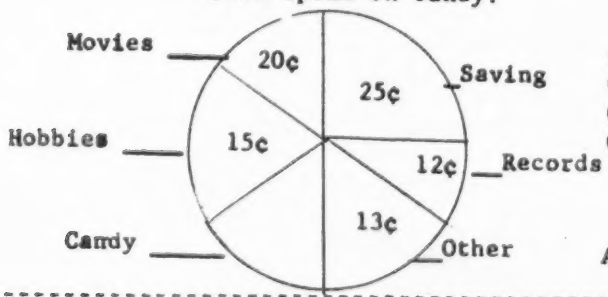
Answer: (A)

Level 7 Classification - Problem Solving/Word Problems, Problems involving Percent/ Proportion/Ratio	41 Descriptor - Word Problems - Ratio-Proportion-Percent Role, Student

		6 6 8 8 5	

OBJECTIVE: Given a graph, the student will select an interpretation from the graph.

SAMPLE ITEM: The circlegraph below shows how one dollar of Jack's allowance is used. How much does Jack spend on candy?



(A) 20¢
(B) 15¢
(C) 25¢
(D) 19¢

Answer: (B)

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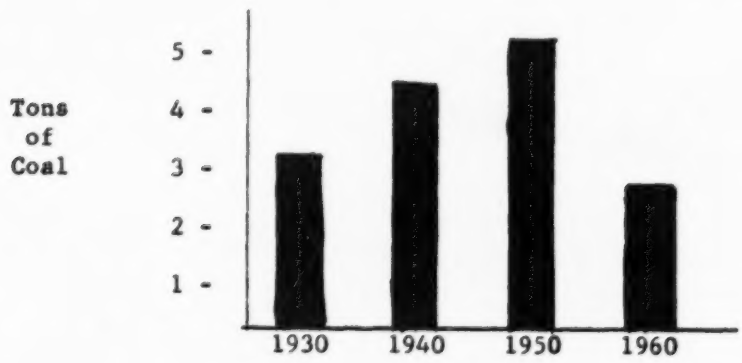
		6 6 8 9 0	

OBJECTIVE: The student will recognize a specified detail on a bar graph such as "most," "smallest," etc.

SAMPLE ITEM: During which year was the smallest amount of coal used?



(A) 1930 (B) 1940 (C) 1950 (D) 1960

Answer: 1960

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